# **CloneSpy**

This is the CloneSpy help file.

### Introduction

CloneSpy is a very powerful tool, but incorrect usage may have very damaging effects on your system. Therefore, **please read at least the following subsections of the introduction** if you are using CloneSpy for the first time:

- <u>Overview</u>
- <u>Important Note</u>
- Quick Start

### **Overview**

#### Why was CloneSpy written?

Do you often download files from the Internet? Is your hard drive crowded with these files? Have you ever asked yourself which files you have downloaded more than once? Perhaps you have burned files to a DVD and retrieved them again? Do you want to find these files and eliminate the duplicates? Maybe you want to find duplicate files without checking your entire collection of backup DVDs every time? Then CloneSpy is the right tool for you!

### What can CloneSpy do?

CloneSpy can help you free up hard drive space by detecting and removing duplicate files. Duplicate files have exactly the same contents regardless of their name, date, time and location. Also, CloneSpy is able to find files that are not exactly identical, but have the same file name, file title, or file extension. Perhaps you have different versions of a file and you want to find all of them and remove the older versions. CloneSpy can also find zero length files. These are files that have no content.

With CloneSpy you can process files which

- are duplicates
- are duplicates having the same file name, title, or extension
- have the same file name or title
- have the same file name or title, and similar size
- are zero bytes long

CloneSpy offers you a complete mechanism for determining which files should be removed. It is also possible to leave this decision up to the individual user.

CloneSpy can handle equal files by

- deleting redundant files
- moving redundant files to a specific folder
- exporting a list of all equal files without removing any files
- deferring file operations on redundant files to a batch file where you can apply arbitrary file operations
- replacing redundant files with shortcuts or hard links (NTFS) to retained files

With CloneSpy you can build checksum files from files on DVDs (or even on hard drives, etc.) and use them to check whether these files already exist on your system. The checksum files will prevent you from having to play DJ every time you search for duplicates!

If you are using CloneSpy for the first time, please take the time to read the <u>Important Note</u> and the <u>Quick</u> <u>Start</u> section.

### **Important Note**

CloneSpy builds a list of all files in the selected drives and folders. For this reason, it is important that you do not run any applications which alter the files being searched for duplicates. This includes such operations as saving or deleting files, deleting whole directories or folders, and defragmenting drives. Doing this is not dangerous, but CloneSpy may display files which were duplicates at the time they were analyzed, but which have changed since. Use CloneSpy in the same way that you would use any defragmenting program. It is also recommended that you disable any virus scanner before running the program.

CloneSpy generates 256-bit checksums to compare files if they have the same size. Theoretically this means that different files might get the same checksum. As a result two different files might be wrongly detected as being equal. But this is highly unlikely. In detail the chances that for two different files the same checksums are generated is lower than:

Note that checksums are only compared if the corresponding files have the same size. In practical dimensions this means that false detections due to so-called checksum collisions never happen.

### **Quick Start**

Make sure that you read the **Important Note** before using CloneSpy.

If you just want to find identical files in some of your drives or folders, follow these instructions:

- 1. Press the *Add folder* button in the <u>Pool 1 frame</u> on the <u>Main window</u>. The <u>Add folder window</u> appears.
- 2. Choose the drive or folder you want to recursively search for duplicates from the folder tree on the left side of the <u>Add folder window</u> and press the <u>Add selected folder</u> button. Repeat this until all folders you want to scan are inserted to the pool. Finally press the *OK* button.
- 3. Back on the main window, leave the mode in the *Mode* frame set to *Compare* files within Pool 1.
- 4. Make sure, that the option *Duplicates* is selected in the <u>Search for frame</u>.
- 5. Check if the option *Ask user* is activated in the *Action* frame.
- 6. Finally, press the button *Start scanning* in the lower right corner of the <u>Main window</u>. CloneSpy will start scanning all the drives and folders which were added to Pool 1. If CloneSpy finds duplicate files, these files will be displayed. Then, you can decide which file (if any) should be deleted. Deletion takes place immediately.

### Warning!

- If you choose the option *Automatically delete* in the <u>Action frame</u> CloneSpy will automatically delete files without any further confirmation.
- Run the scanning process only on drives or folders where you are both aware of the contents and confident that it is safe to allow files to be deleted.
- Be especially careful about scanning system folders! Over-zealous use could have very damaging effects.
- Never use CloneSpy to scan the Windows folder or the whole drive where Windows is installed with automatic deletion. This will kill your system because there are certain files with the same content which Windows does *not* regard as redundant duplicates.

For more details about configuring CloneSpy consult the description of the  $\underline{\textit{Main}\ window}$  and the description of the  $\underline{\textit{Options}\ window}$ .

**Basics and Requirements**This section describes some basics about CloneSpy. Please refer to the following topics:

- System Requirements
- Warranty
- Support
- <u>History</u>

### **System Requirements**

#### **General requirements**

The 32-bit version of CloneSpy runs on the x86 and x64 versions of Windows XP, Vista, 7, 8, 8.1, and 10. The 64-bit version of CloneSpy runs on the x64 version of Windows XP, Vista, 7, 8, 8.1, and 10.

CloneSpy requires a minimal screen resolution of 800 x 600 when using normal font size. If you use a larger print, you may need a higher resolution.

How much main memory CloneSpy will use depends on whether you use the 32-bit or the 64-bit version and on how many files will be scanned:

- If you scan 100,000 files then the 32-bit version of CloneSpy will require about 40 MB of memory. Please note, that the 32-bit version cannot use more than 2 GB of your main memory.
- If you scan 100,000 files then the 64-bit version of CloneSpy will require about 80 MB of memory.

If CloneSpy finds a large amount of equal files, however, the program might need more memory. Also, if you close CloneSpy after scanning a large number of files then the program needs some time until all allocated memory is returned to the system.

As CloneSpy is intended to delete files make sure that you run the program with the corresponding rights (e.g., administrator rights). Please also note that you cannot delete files or folders owned by *TrustedInstaller* even if you have administrator rights. You have to take ownership of those files and folders first.

#### Functional requirements (standard installation) [for experienced Windows users]

If you have chosen the standard installation in the CloneSpy installer then CloneSpy expects to be allowed to create two folders both named "CloneSpy" when it is started for the first time. The first folder is created in your "My Documents" folder and is the default output folder for files created by CloneSpy. The second folder is created in your (hidden) "Application Data" folder and stores the CloneSpy.ini. The name and location of these folders, however, can be modified through the Windows registry at:

HKEY\_LOCAL\_MACHINE\SOFTWARE\CloneSpy

Here you have to modify (one of) the following entries accordingly:

AppDataSubDir MyDocsSubDir

For each entry you can specify a sub-folder structure like "My\Folder\Structure\CloneSpy". If you specify an empty string then no sub-folder is created. You can also specify an absolute path starting with a drive letter to use an arbitrary folder. If you want CloneSpy to use the installation folder instead (where CloneSpy.exe is located) then you just have to set (one of) the following entries to "false":

UseAppDataDir UseMyDocsDir

### **Notes:**

- Changes to the registry entries mentioned above will only take effect after you have restarted CloneSpy.
- Changes to MyDocsSubDir affect the default settings of the program. If you have chosen to automatically load a settings file on program start in the <u>Automation window</u> then the default values are overridden.

### Warranty

Disclaimer of Warranty

If you do not agree to all of the terms of this agreement, you are not allowed to use the program CloneSpy.

- 1. You agree not to reverse engineer, decompile, disassemble, alter, distribute for profit, or rent the software.
- 2. The software is provided on an "AS IS" basis without warranties as to performance of merchantability or any other warranties whether expressed or implied. In particular, there is no warranty for the optional undelete feature provided by the Windows recycle bin. Because some software disables this feature, no warranty of fitness for a particular purpose is offered. You expressly agree that the use of the software is at your own risk.
- 3. In no event will the author be liable to any party:
  - a. For any direct, indirect, special, punitive, incidental or consequential damages (including, but not limited to, damages for loss of business profits, business interruption, loss of programs or information, and the like), or any other damages arising in any way out of the use of, reliance on, or inability to use the program even if the author shall have been advised of the possibility of such damages.
  - b. For any claim attributable to errors, omissions, or other inaccuracies in, or destructive properties of any information. The author reserves the right not to be responsible for the correctness, completeness or quality of the software provided. Liability claims regarding damage caused by the use of CloneSpy will therefore be rejected.
- 4. All copyrights of the software stay with the author.

### Support

If you have problems using CloneSpy and are inclined to contact us, please do the following first:

- Check that you are doing everything correctly. Everybody makes mistakes sometimes, especially if a program is rather complex.
- Have a look at the help file. It may already contain the answer to your question. We are often asked for some specific explanation in relation to a question which is in fact fully documented in the help file.
- Visit our web site on the Internet at www.clonespy.com. It is possible that you may find a newer version of CloneSpy there, which may resolve the issue for you. You can also find an FAQ section there which may help to answer your question.

If you still have problems using CloneSpy please contact technical support at

technical@clonespy.com

Please have the following information to hand:

- Your version of CloneSpy (see the About box)
- Your windows version (including service packs and other fixes installed)
- Information about your computer system (CPU type and speed, installed memory)
- The description of your problem (please be as detailed as possible)

Moreover, any bug reports, suggestions, or other hints for improvement are welcome. Likewise any typos or bad English in this help file.

If you like CloneSpy and want to support our work with a small donation, please have a look at the Donation section at www.clonespy.com.

Marcus Kleinehagenbrock, the author.

### History

#### 30.08.2017 - Release of Version 3.4

- Modified: Reimplemented the <u>pools</u> and consolidated related feedback messages to resolve several visualization issues
- Modified: For all Windows versions prior to Windows 10, DPI scaling is now performed by the system to solve icon scaling issues. For Windows 10, you need to adapt the program's DPI scaling behavior if icons are displayed too small (see our FAQ on <a href="https://www.clonespv.com">www.clonespv.com</a>)
- Fixed: Added an explanation for the formerly unknown error code 53

#### 26.03.2017 - Release of Version 3.34

- Added: The update checker can now download and install the latest version (see the <u>Menu bar</u> of the <u>Main window</u>)
- Added: A new option remembers size and position of the Main window (see <u>Priority page</u> of the <u>Options window</u>)
- Added: A new option remembers size and position of the Result presentation windows (see *Priority* page of the *Options* window)
- Added: File properties can now be viewed via the context menu of the **Result presentation windows**
- Added: The *View CSC-file* window now has a search function
- Fixed: When scanning against CSC-files, the <u>Single duplicates window</u> now shows all equal files found (regression since v3.2)
- Fixed: The pattern matcher now recognizes matching string even if the pattern ends with an asterisk

#### 22.01.2017 - Release of Version 3.33

- Added: When moving files to a relative path, the path can now be resolved relative to the respective file (see *Deletion* page of the *Options* window)
- Added: A checksum is now only stored in the database if the corresponding file is larger than a configurable value (see Database page of the *Options* window)
- Modified: The encoding *OEM* is now the default setting for <u>batch files</u>
- Fixed: Eliminated a bug where an installed version was detected as portable version
- Fixed: Added an explanation for the formerly unknown error code 17

#### 31.12.2016 - Release of Version 3.32

- Added: The new *Extensions* page in the *Options* window allows to specify file extensions that are different but should be considered as equal. This option is enabled by default
- Modified: The scan progress window can now be closed via the close button in its title bar after a scan is finished
- Fixed: Corrected an overflow of the "Scanning for duplicates" progress bar in the scan progress window (regression since v3.31)
- Fixed: If a folder is added to a pool which contains many sub-folders of that folder, then the warning

- message no longer overflows
- Fixed: The uninstaller now works properly for 32-bit Windows

#### 28.10.2016 - Release of Version 3.31

- Added: When exporting a list of equal files (see *Export* page of the *Options* window) or a CSC-file (see the *Export* CSC-file window), numbers can now be separated into digit groups
- Modified: File sizes in the <u>log file</u> are now separated into digit groups
- Modified: When <u>searching for</u> duplicates, the progress bars in the scan progress window now advance more linear on average data
- Fixed: The context help now works for the drop-down boxes in the *Main window*
- Fixed: When exporting a list of equal files with aligned columns (see *Export* page of the *Options* window), trailing spaces are no longer generated
- Fixed: Copying Cyrillic characters to the clipboard no longer fails

#### 27.08.2016 - Release of Version 3.3

- Added: The *Main* window is now resizable
- Added: Added new <u>search options</u> to the <u>Main window</u>
- Modified: Replaced some radio buttons with drop-down lists to make room for the new <u>search</u> <u>options</u>
- Modified: The <u>checksum database</u> journal file is now kept permanently for performance reasons
- Modified: Changed the order of buttons in several dialogs to be consistent with the standard button order in Windows
- Modified: Moved all context help buttons from the window title bars to the lower right corner of the corresponding dialogs
- Modified: The <u>Size of main CloneSpy window option</u> now only changes the <u>Main window</u> size at start-up (see <u>Priority page</u> of the <u>Options window</u>)
- Modified: In the default format for *exporting lists of equal files*, file time now appears before file path
- Fixed: The Copy/Move Dialog Box on Windows 8 and higher is now suppressed

#### 07.05.2016 - Release of Version 3.24

- Added: After CloneSpy has deleted a file, it can now automatically remove additional files specified in the Options from an otherwise empty folder (see <u>Deletion page</u> of the <u>Options window</u>)
- Added: The new <u>command line option</u> -u can be used to disable the automatic check for new versions on program start
- Modified: The default format to explore files now highlights the respective file in the File Explorer (see *Report* page of the *Options* window)
- Modified: Improved database error messages
- Fixed: Some file dialogs did not remember the last visited folder correctly
- Fixed: Error messages now correctly reflect that CloneSpy can only support file paths up to a length of 258 characters
- Fixed: In the *All duplicates* window files can now be marked based on their path length when

- searching for files with the same name
- Fixed: When merging CSC-files now all duplicate entries are removed

#### 05.01.2016 - Release of Version 3.23

- Modified: Exchanged "+" by "&" in the <u>Main window</u> to clarify the meaning of the <u>Search for</u> options
- The 64-bit version no longer crashes when clicking the list header in the <u>Zero length files window</u> or the <u>Single duplicates</u> window
- CloneSpy no longer crashes when scanning long paths on network drives
- Added an explanation for the formerly unknown error code 183

#### 22.08.2015 - Release of Version 3.22

• Fixed: CloneSpy no longer fails to move files to the recycle bin or another folder on Windows XP (regression since v3.21)

#### 27.06.2015 - Release of Version 3.21

- Added: In <u>two-pool mode</u>, the colors that highlight files from pool 1 and 2 in the <u>Result presentation</u> <u>windows</u> can now be changed by a right-click on the corresponding legend
- Added: More dialogs can now be configured to never show up again
- Fixed: Unnecessary system messages are no longer shown if deletion of files fails
- Fixed: Added an explanation for the formerly unknown error code 206

#### 31.03.2015 - Release of Version 3.2

- Added: The installer now allows you to select between a 32-bit and a 64-bit version of CloneSpy
- Added: If you push the *Delete all marked files* button in the <u>Zero length files window</u> or <u>Single duplicates window</u> without first marking any file then an explanation is given on how to mark files
- Modified: Optimized the memory management so that now more of the available memory can be used
- Modified: Optimized the structure of the <u>checksum database</u> leading to the effect that your database needs to be rebuilt (previously cached checksums will be recreated)
- Modified: If you scan a large number of files then the percentages in the scan progress window now have decimal places
- Modified: Opening and closing a large number of categories in the <u>All duplicates window</u> are now faster
- Modified: Marking a large number of files in the <u>All duplicates window</u> is now faster
- Modified: The upper limit for the size of scanned files is now deactivated by default (see <u>Time + Size</u> page of the <u>Options window</u>)
- Fixed: If you have a large checksum database then CloneSpy no longer freezes for some time when you open the *Options* window

- Fixed: The <u>Options window</u> no longer freezes while the checksum database is being cleaned up (see <u>Database page</u> of the <u>Options window</u>)
- Fixed: In the *Options*, if *Make new file* or *Replace file* is selected then the corresponding file name may no longer be erased
- Fixed: The <u>Single duplicates window</u> no longer shows files that were already deleted manually by the user during the scan
- Fixed: If CloneSpy is ran from the installer then it now runs with user privileges
- Fixed: Corrected the original file name in the version information of the installer

#### 28.06.2014 - Release of Version 3.13

- Fixed: Directory symbolic links whose target starts immediately with a directory are now recognized
- Fixed: Directory symbolic links whose target starts with a backslash are now resolved correctly
- Fixed: The *View CSC-file* window no longer confuses properties of files with the same path
- Fixed: The controls in the <u>View CSC-file window</u> is now wide enough to display the file properties
- Fixed: The context help now works correctly for the *Options* button in the *Main* window

#### 26.04.2014 - Release of Version 3.12

- Added: Equal files can now be explored or marked by an external program (see <u>Report tab</u> of the <u>Options window</u>)
- Added: The new pattern %P of the export list format (see *Export* tab of the *Options* window) and the CSC-file export format (*Export* CSC-file window) allow for exporting the source pool number
- Modified: Moved *Execute selected file* function of the <u>Result presentation windows</u> to the context menu of the list of equal files
- Fixed: The *Override delete selection* indication in the <u>Main window</u> is now only shown if the <u>Action</u> is set to <u>automatically delete</u>
- Fixed: When a CSC-file is created then only relevant settings in effect are now written to the log file
- Fixed: <u>Hard links</u> can be created again on NTFS drives for Windows XP and Windows Vista (regression since v3.0)
- Fixed: The silent install command line option /ALLUSERSHORTCUT works now properly

#### 01.03.2014 - Release of Version 3.11

- Added: The system can now be automatically shut down after a scan is done
- Added: System sleep can now be prevented while scanning (see *Priority* tab of the *Options* window)
- Added: Some dialogs can now be configured to never show up again
- Modified: Mitigated database access problems if several instances of CloneSpy are run in parallel (although not recommended)
- Fixed: CloneSpy no longer asks about saving settings when the user selects to automatically exit the program after scanning
- Fixed: CloneSpy can no longer be configured to exit automatically if <u>zero length files should be</u> <u>presented to the user</u>
- Fixed: If a folder in an inactive pool is also added into the other pool then this conflict is now resolved silently

• Fixed: Eliminated a bug that caused a crash while scanning or aborting a scan which happened in rare cases

#### 25.01.2014 - Release of Version 3.1

- Added: Integrated a database for caching checksums to speed up scanning (see <u>Database page</u> of the <u>Options window</u>)
- Added: All paths written into a batch file can now be converted into 8.3 form (see <u>Batch page</u> of the *Options* window)
- Added: Files generated by CloneSpy can now be encoded in UTF-8
- Added: CloneSpy now warns on missing and spurious command line parameters
- Added: Before a setting files is upgraded to the current version, the user now has the option to create a backup
- Added: The installer now generates a warning if the install path contains a hash character because it will block access to the help file
- Fixed: Added an explanation for the formerly unknown error code 80

#### 12.10.2013 - Release of Version 3.04

- Modified: Portable and installed versions can now be run in parallel
- Modified: The portable version now initializes paths in the <u>Options window</u> relative to the CloneSpy executable

#### 21.09.2013 - Release of Version 3.03

- Fixed: CloneSpy can now represent invalid file dates correctly
- Fixed: CloneSpy now supports daylight saving time when displaying file dates
- Fixed: CloneSpy no longer crashes if a date in the distant future is chosen in the calendar on the <u>Time</u>
   + <u>Size page</u> of the <u>Options window</u>
- Fixed: The list of equal files in each <u>Result presentation window</u> can now be sorted by the entries in the CSC-file column

#### 31.08.2013 - Release of Version 3.02

- Fixed: CloneSpy now correctly resolves relative symbolic links
- Fixed: CloneSpy no longer resolves links on a network drive
- Fixed: CloneSpy no longer rejects mapped network drives

#### 10.08.2013 - Release of Version 3.01

• Fixed: CloneSpy no longer crashes when a file with invalid date is acquired

- Fixed: Corrected the version information of the CloneSpy executable
- Fixed: Completed information in Windows' Add/Remove Programs
- Fixed: Corrected some minor visual glitches

#### 27.07.2013 - Release of Version 3.0

- Added: Reparse points and substituted paths can now be resolved to their true paths due to use of new compiler and libraries:
  - A folder will no longer be considered more than once if it is found several times due to reparse points or substituted paths
  - When <u>hard links have to be created</u>, a scan is only started if the true paths of all folders in the pool(s) are on the same drive
  - When hard links have to be created, a sub-folder is ignored if its true path is on a different drive
- Modified: Creation of hard links no longer requires administrator rights
- Modified: Reduced memory consumption when deleting files to the recycle bin
- Modified: Reduced memory consumption when merging CSC-files
- Modified: Windows 2000 is no longer supported
- Fixed: Deactivated controls on the <u>Time + Size page</u> no longer complain about missing input
- Fixed: Deletion of hard links no longer affects the calculation of freed space
- Fixed: Corrected several minor visual glitches

#### 15.12.2012 - Release of Version 2.7

- Added: The *Main* window now has an *Options* button
- Added: Folders entered to a pool can now be explored via the context menu
- Added: The summary of a log file now also shows the number of categories of equal files found
- Added: The scan progress window now also shows the number of categories of equal files found
- Added: After a <u>batch file is created</u> or a <u>list file is exported</u>, the scan progress window now shows a button to view that file
- Added: Files shown in the <u>Result presentation windows</u> can now be executed by pressing the Return key
- Added: Adding all sibling folders to a pool in the <u>Add folder window</u> can now be aborted if errors occur
- Added: The new <u>command line option</u> -i can now be used to ignore errors while scanning and to exit automatically afterwards
- Added: The installer now offers command line options for silent installation (specify /? on the installer command line for usage details)
- Modified: The default for characters that cannot be represented in files with OEM encoding is now the same as for ANSI encoding
- Modified: The default for characters that cannot be represented in batch files with ANSI or OEM
  encoding can now be changed (see <u>Batch page</u> of the <u>Options window</u>)
- Modified: When <u>adding file masks</u> in the <u>Files</u> or <u>Names</u> page of the <u>Options window</u>, you can now browse for or paste multiple file names
- Modified: Multiple file paths can now be pasted to the Manual input control in the <u>Add folder</u> window
- Modified: Windows Nt4.0 is no longer supported

- Fixed: If a hard link cannot be created then CloneSpy tries to restore the original file
- Fixed: After changing the encoding for <u>batch files</u> or <u>export lists</u>, a new file can now be created without changing the corresponding file path
- Fixed: When <u>searching for</u> files with same name, the <u>Single duplicates window</u> now allows to preselect files based on their folder/path length
- Fixed: When <u>searching for</u> files with same name, the <u>Action frame</u> of the <u>Main window</u> now allows to automatically delete files based on their folder/path length
- Fixed: The default batch file format now also supports hidden file deletion (see <u>Batch page</u> of the <u>Options window</u>)
- Fixed: When <u>exporting a list of equal files</u>, the correct encoding is now applied (regression since v2.62)
- Fixed: When browsing for a file pattern from the context menu of the *All duplicates* window, the correct dialog is now shown
- Fixed: Added an explanation for the formerly unknown error code 112

#### 28.04.2012 - Release of Version 2.63

- Added: Reparse points can now be excluded from a scan (see *Folders* page of the *Options* window)
- Modified: File access error message boxes now remind the user of potentially missing administrator rights for Windows Vista and higher
- Modified: When <u>exporting a list of equal files</u> and no equal files are found then this is now stated in the exported list file
- Fixed: When <u>searching for</u> files with same name, the context menu of the list box in the <u>All duplicates window</u> now contains options for retaining files based on folder/path length
- Fixed: The installer now shows the correct license agreement
- Fixed: Added an explanation for the formerly unknown error code 124

#### 24.09.2011 - Release of Version 2.62

- Added: Exported lists of duplicate files can now be configured to contain a header and a summary (see *Export* page of the *Options* window)
- Added: Exported CSC-files can now be configured to contain a header (see the *Export CSC-file* window)
- Modified: Redesigned the *Options* window from tab-based to page-based view in order to solve scaling issues with different font sizes
- Modified: The options for <u>creating batch files</u> and for <u>exporting lists of duplicate files</u> are now separated into two individual option pages
- Modified: If started for the very first time CloneSpy now asks for saving the settings on program exit
- Modified: Floating-point numbers are now represented according to the user's preferred native locale
- Modified: Improved the error message which is shown when hard links cannot be created due to insufficient rights of the user running CloneSpy
- Modified: Hard links are no longer replaced by new hard links
- Fixed: The number of hard links that can be created is no longer limited
- Fixed: The <u>command line options</u> for changing the setting of the <u>Mode frame</u> in the <u>Main window</u> no longer cause a crash (regression since v2.6)

#### 25.06.2011 - Release of Version 2.61

- Added: The vertical size of the <u>Main window</u> can now be reduced (see <u>Priority tab</u> of the <u>Options window</u>)
- Modified: Improved the error message which is shown when a file cannot be deleted due to insufficient rights of the user running CloneSpy
- Modified: The folder \$Recycle.Bin is now ignored by the default settings (see <u>Folders tab</u> of the <u>Options window</u>)
- Fixed: Enlarged the fields showing the numbers of open and closed categories in the <u>All duplicates</u> window to hold more than four digits
- Fixed: Improved the scaling of the tab pages in the *Options* window for all font sizes on Windows Vista and Windows 7
- Fixed: When resetting all settings then the most-recently-used lists of the pools are now erased

#### 29.01.2011 - Release of Version 2.6

- Added: Zero length files can now be handled as normal files (see <u>Time + Size tab</u> of the <u>Options window</u>)
- Added: Checksums can now be exported by using %c in the export list format (see *Export* tab of the *Options* window)
- Added: Folders in a pool can now be explored in the <u>Add folder window</u>
- Added: Default <u>command line parameters</u> can now be specified in the registry
- Modified: The tree view of the *View CSC-file* window is now generated faster
- Modified: The uninstaller now removes CloneSpy.ini for better cleanup
- Modified: If errors occur while all sibling folders are added to a pool in the <u>Add folder window</u> then more precise error messages are shown
- Modified: If a settings file cannot be loaded at startup then a more precise error message is shown
- Modified: The symbol used as digit group separator for large numbers is now taken from the locale settings of the user
- Modified: Windows 98se and Windows ME are no longer supported (regression since v2.5)
- Fixed: The check boxes in the <u>View CSC-file window</u> window are now shown in disabled state because they cannot be modified by the user
- Fixed: If a settings file could not be loaded at startup then the title of the <u>Main window</u> no longer says the opposite
- Fixed: The context menu in the <u>Single duplicates window</u> no longer shows wrong entries
- Fixed: Invalid file errors no longer occur when making a CSC-file from the second pool while logging is enabled (regression since v2.51)
- Fixed: A CSC-file no longer includes an entry about itself, which occurred when the CSC-file was stored in the scanned folder

#### 28.08.2010 - Release of Version 2.52

 Added: The list box of each <u>Result presentation window</u> can now be configured to show the name of scanned CSC-files via the context menu

- Added: The list box of the <u>All duplicates window</u> now has additional entries in its context menu for unmarking files in a more advanced way
- Added: Categories in the <u>All duplicates window</u> can now be opened and closed based on whether they contain marked files or not
- Added: Directory deletion commands are now written to batch file if empty folders should be removed (see *Deletion* tab of the *Options* window)
- Modified: Memory management is slightly improved
- Fixed: The *Stop scanning* button in the <u>Zero length files window</u> is now working again (regression since v2.31)

#### 10.04.2010 - Release of Version 2.51

- Added: The list boxes in the <u>Result presentation windows</u> now have a context menu offering copy-toclipboard operations and grid lines
- Added: The list box of the *All duplicates* window has additional entries in its context menu offering more advanced file marking and statistics
- Added: In the <u>Add folder window</u> it can now be configured whether the last visited folder in the tree view should be remembered for both pools
- Added: The <u>Add folder window</u> now has a *Remove selected folder from list* button that removes directory paths from the pool list box
- Added: The user now receives feedback if errors occur while files are being acquired (can be disabled in the *Report* tab of the *Options* window)
- Added: The settings associated with a scan can now be written to the log file (see <u>Logging tab</u> of the <u>Options window</u>)
- Added: CloneSpy can now be configured to play a sound when equal files are immediately displayed (see <u>Priority tab</u> of the <u>Options window</u>)
- Added: File entries in the <u>Result presentation windows</u> can now be marked by pressing the Ctrl key plus the left mouse button
- Added: The installer now allows you to change the folder in the start menu or even to create a new folder
- Modified: The Options window now remembers the last visited tab until the next program start
- Modified: The *All duplicates* window can now be closed with the close button in the title bar
- Modified: Improved wording of the header written to the log file
- Modified: Improved readability of numbers in the log file summary
- Fixed: The option *Close categories above selected item* no longer affects the currently highlighted category in the *All duplicates* window
- Fixed: Controls in the *Logging* tab of the *Options* window are now correctly enabled/disabled if logging is enabled/disabled
- Fixed: Corrected the log file entry for deleted or moved zero length files for the case that deletion of equal files is deferred to batch file
- Fixed: After clicking one of the *Make CSC* buttons in the <u>Main window</u> unrelated error messages are no longer shown
- Fixed: Added an explanation for the formerly unknown error code 19

#### 16.12.2009 - Release of Version 2.5

- Added: CloneSpy now fully supports Unicode
- Added: Output files can now be encoded in ANSI, OEM, or Unicode
- Added: In <u>two-pool mode</u> you can now click on the legend of the <u>Result presentation windows</u> to mark all files of the corresponding pool
- Modified: The *Add folder* window now remembers the last visited folder for each pool individually
- Fixed: CloneSpy no longer fails on finding all equal files when <u>searching for</u> duplicates with the same name which happened in rare cases
- Fixed: CloneSpy now handles files with sizes larger than 2 GB correctly
- Fixed: When exporting file lists the %f column now gets correctly aligned
- Fixed: Added version information to installer and CloneSpy executable
- Fixed: Added explanations for the formerly unknown error code 120
- Fixed: When adding a folder into a pool while its parent folder is in the other pool then the parent folder is correctly removed again (regression since v2.4)
- Fixed: The *total time of scanning* shown in the scan progress window no longer resets to 00:00:00 after 24 hours
- Fixed: File paths longer than 255 characters no longer cause a crash

#### 13.06.2009 - Release of Version 2.41

- Added: The expansion progress of the folder tree in the <u>Add folder window</u> can now be aborted by pressing the Escape key
- Added: The location of the CloneSpy.ini and the default output folder can now be modified through the <u>registry</u> (only available for standard installation)
- Fixed: The creation of the folder for the CloneSpy.ini at program start no longer fails for users with Unicode characters in their names (only occurred in standard installation)
- Fixed: The date format is now correctly retrieved from a settings file

#### 21.05.2009 - Release of Version 2.4

- Added: CloneSpy now comes with an installer. Alternatively, the program can still be unpacked and executed without installing it
- Added: CloneSpy can now create hard links (see *Deletion* tab of the *Options* window)
- Added: Environment variables can now be used for specifying file and folder paths in CloneSpy (see <a href="Specifying paths">Specifying paths</a> in the help file)
- Added: All folders in the tree view of the <u>View CSC-file window</u> can now be expanded/collapsed at one time via context menu
- Added: If a settings file is loaded automatically (see <u>Command line options</u> and <u>Automation window</u>) its path is displayed in the <u>Main window</u> title
- Added: The date can now be displayed in ISO 8601 format (see <u>Time + Size tab</u> of the <u>Options window</u>)
- Modified: Checking for a newer version is now activated by default (see the <u>Menu bar</u> of the <u>Main window</u>)
- Fixed: The list boxes in the *Options* window (see *Files* tab, *Folders* tab, and *Names* tab) now allow entries that are prefixes of other entries
- Fixed: When merging CSC-files entries with the same name and content but different file path are no longer removed

• Fixed: The default text color of the <u>pool list boxes</u> in the <u>Main window</u> is now no longer black but taken from the system color scheme

#### 18.10.2008 - Release of Version 2.35

- Added: When dropping files into a pool their folders can now be inserted
- Fixed: The *Add folder* window now opens without time lag

#### 27.09.2008 - Release of Version 2.34

- Added: The new <u>command line option</u> -csc inserts CSC-files into the CSC-pool
- Added: The new <u>command line options</u> -c1 and -c2 allow you to automatically start a CSC-file generation for the corresponding pool
- Added: If all files in the <u>Single duplicates window</u> or all files within a category in the <u>All duplicates</u> window are marked while the delete button is pressed then a warning is issued
- Added: The new patterns %i and %I of the export list format (see <u>Export tab</u> of the <u>Options window</u>)
   and %i of the CSC-file export format (see the <u>Export CSC-file window</u>) allow for the enumeration of
   file entries
- Added: When exporting a list of duplicates, alignment of columns can now be switched off (see
   <u>Export tab</u> of the <u>Options window</u>). The same holds for CSC-file export (see the <u>Export CSC-file window</u>)
- Fixed: If *Make new file* is selected in the *Logging* tab of the *Options* window the View log button in the scan progress window now opens the correct log file

#### 12.07.2008 - Release of Version 2.33

- Added: A new check box in the scan progress window makes CloneSpy close after a scan if results are exported or deleted automatically
- Added: If a log file is generated, it can now be viewed after a scan by pressing the corresponding button in the scan progress window
- Added: The date can now be displayed in different formats (see <u>Time + Size tab</u> of the <u>Options</u> <u>window</u>)
- Added: Folders entered manually in the <u>Add folder window</u> can now be added to a pool by pressing the Return key
- Added: If a pool cannot be scanned because of restrictions in the *Options* window, CloneSpy now provides a better explanation about the cause
- Modified: The <u>command line option</u> -e is now ignored if results are to be handled by the user (see the *Action* frame of the *Main* window)
- Fixed: Solved some display problems when using large fonts

#### 14.06.2008 - Release of Version 2.32

• Added: The command line options -p1 and -p2 can now handle multiple folders

- Added: The new <u>command line options</u> -m1, -m2, -m12, -m1c, and -m2c can be used to override the scanning mode
- Added: CSC-files can now be merged (see the Menu bar of the Main window)
- Added: Data from CSC-files can now be exported to text files (see the <u>Menu bar</u> of the <u>Main window</u> or the <u>View CSC-file</u> window)
- Fixed: The command line options -p1 and -p2 can now handle folders that end with a backslash
- Fixed: CloneSpy no longer crashes when the <u>View CSC-file window</u> is closed before the tree view is fully generated
- Fixed: Folders in the tree view of the <u>View CSC-file</u> window are now shown in the order of acquisition
- Fixed: Adding CSC-files to the <a href="CSC-pool">CSC-pool</a> now works correctly again
- Fixed: Solved some display problems when using 120 DPI setting

#### 10.05.2008 - Release of Version 2.31

- Modified: If equal files are scheduled to be displayed at the end of a scan and it is aborted, then all
  equal files found so far are presented
- Modified: If the last selected folder in the <u>Add folder tree view</u> no longer exists then its next valid parent is selected rather than the root
- Modified: It is now possible to specify relative paths for the log file, the batch file, the export list file, and the move-to folder (see *Options* window)
- Fixed: When exporting a list or batch file the accessibility of that file is now checked at the start of the scan
- Fixed: It is now possible to add large amounts of CSC-files to the <u>CSC-pool</u> at one time
- Fixed: Read-only files are now correctly deleted if *How to delete* is set to *Really delete* (see <u>Deletion tab</u> of the <u>Options window</u>)
- Fixed: Deletion of an empty folder works now even if it is read-only (see <u>Deletion tab</u> of the <u>Options window</u>)
- Fixed: CloneSpy no longer crashes if the command line option -e is used
- Fixed: On Windows Vista the *Options* window is now displayed correctly
- Fixed: Corrected memory leak within file comparison routine
- Fixed: CloneSpy message boxes now give audible feedback

#### 21.10.2006 - Release of Version 2.3

- Added: The <u>Add folder window</u> has three new button for saving, loading, and merging the content of the pool
- Added: A right click on a pool shows a list of pool files recently saved, loaded, or merged. The list can be used for quick loading pool files
- Added: The new <u>command line parameters</u> -p1 and -p2 allow you to override the content of the pools at program start
- Added: The settings menu of the <u>Main window</u> now has a list of settings files recently loaded or saved. It can be used for quick loading settings
- Added: The list in the <u>Ignore specified folders frame</u> can now be individually saved (see <u>Folders tab</u> of the <u>Options</u> window)
- Added: To include a summary containing information from the scan progress window in the

- CloneSpy log file, select the appropriate check box in the <u>Logging properties frame</u> (see <u>Logging tab</u> of the <u>Options window</u>)
- Added: The sound playing function announcing the end of the scan can now be disabled (see *Priority* tab of the *Options* window)
- Modified: The <u>Automation window</u> now allows to specify not only absolute, but also relative paths to settings files
- Modified: Changed button label from *Load list* to *Merge list* in the <u>Files tab</u> and the <u>Names tab</u> of the <u>Options window</u> as the new description suits better to the function of the buttons
- Modified: Improved memory management in file acquisition phase, especially when acquiring huge amounts of files from CSC-files
- Fixed: CloneSpy does not crash any more in the file acquisition phase if the system runs out of free main memory
- Fixed: When scanning for files with same name and (approx.) same size, the correct file size is now used for comparison
- Fixed: When the Delete button in the <u>Single duplicates window</u> is pressed, the application will not drop in the background any more
- Fixed: CloneSpy can now be started in Windows XP even if the Data Execution Prevention (DEP) is activated
- Fixed: Added an explanation for the formerly *unknown* error code 82

#### 05.06.2006 - Release of Version 2.21

- Fixed: When an XP-Style is activated on Windows XP all CloneSpy windows have now a context help button in their title bar
- Fixed: When a path is inserted manually in the <u>Add folder window</u> leading and trailing white spaces are ignored now
- Fixed: When searching for duplicates with or without same name the checksum generation progress will not exceed 100% any more
- Fixed: The icon next to *Sorting acquired files* in the scan progress window will not flicker any more when searching for duplicates

#### 09.04.2006 - Release of Version 2.2

- Added: All pools are now Drag & Drop enabled so that folders dragged from the Windows Explorer can be dropped on the pools
- Added: A right-click on an item of the folder tree in the <u>Add folder window</u> will add the clicked folder to the pool
- Modified: If the mode *Pool1/2 + CSC* and the action *Automatically delete* is selected in the <u>Main</u> window then the option *only in Pool 1/2* is automatically chosen in the <u>Action frame</u> as it is the only one
- Modified: The <u>Single duplicates window</u> is now closed right after the Delete button is being clicked to avoid double clickings
- Modified: Points are inserted between every three digits of large numbers in the scan progress window in order to improve readability
- Fixed: The automatic update checker does not crash any more when there is no or a bad internet connection

- Fixed: When folders are excluded from a scan, CloneSpy no longer mistakenly interprets those folders as files while scanning
- Fixed: The recursive deletion of empty folders is working now
- Fixed: The message that appears because a folder being added to a pool collides with the existing pool content is not corrupted any more
- Fixed: The icon that appears on Windows' Alt-Tab screen for CloneSpy is now the correct one
- Fixed: Added explanations for the formerly *unknown* error codes 31 and 32

#### 06.06.2004 - Release of Version 2.11

• Fixed: The program now does not crash any more when exporting a list or a batch file while searching for files with same name or with same name + (approx.) same size

#### 09.05.2004 - Release of Version 2.1

- Added: The *Add folder* window now allows to enter folder paths manually
- Added: The scanning process can now be started automatically by <u>Command line parameters</u>. The program can also be exited automatically this way
- Added: The priority of the scanning process can now be changed in the <u>Scanning priority frame</u> (see the new <u>Priority tab</u> of the <u>Options window</u>)
- Added: Besides deleting files on shorter/longer *file name*, this decision can now be made according
  to their *file path* or *directory path* (see the <u>Action frame</u> in the <u>Main window</u>, the <u>Single duplicates</u>
  window, and the <u>All duplicates window</u>)
- Added: CloneSpy can now be exited without automatically saving the settings if this is chosen in the *Automation* window (see the Menu bar of the *Main* window)
- Added: All batch files generated by CloneSpy now present a warning when being executed
- Fixed: All pools now offer a horizontal scroll bar if necessary
- Fixed: The scanning process can now also be paused while it acquires CSC-files
- Fixed: The scanning process now runs at normal speed while it acquires CSC-files
- Fixed: The location of CSC-files is now remembered correctly if multiple files are added to the <u>CSC-pool</u> simultaneously

#### 28.12.2003 - Release of Version 2.0

Complete re-implementation of CloneSpy in order to integrate a wide variety of new features:

- Exclude files or file patterns from a scan
- Case sensitive file name comparisons
- Advanced log file options
- Presentation of all duplicates at the end of a scan
- Presentation of duplicates together in one large list
- Lockable pools for faster scans if the content of a pool is used more than once
- Search for same-name files with same size or approximately same size
- File deletion decision based on length of file names
- Export duplicates as list to a text file
- Defer handling of duplicate files to a batch file in order to apply arbitrary file operations

#### **Release dates of former versions:**

- 30.03.2002 Release of Version 1.51
- 24.03.2002 Release of Version 1.5
- 28.12.2001 Release of Version 1.41
- 16.12.2001 Release of Version 1.4
- 02.09.2001 Release of Version 1.3
- 28.07.2001 Release of Version 1.2
- 09.07.2001 Release of Version 1.11
- 08.07.2001 Release of Version 1.1
- 24.06.2001 Release of Version 1.0

More information on former versions can be found in the history section at <a href="www.clonespy.com">www.clonespy.com</a>.

## **Using CloneSpy**

In order to learn how to use CloneSpy please refer to the following topics and descriptions of the program's individual windows, respectively:

- the specification of paths
- the command line parameters
- the *Main* window
- the *Add folder* window
- the **Options** window
- the *Insert mask* window
- the <u>Automation window</u>
- the <u>View CSC-file window</u>
- the *Export CSC-file* window
- the <u>Merge CSC-file window</u>
- the Result presentation windows

### **Specifying paths**

Within CloneSpy there are several locations where you can specify a file or folder path. These are:

- the <u>Automation window</u>
- the *Export CSC-file* window
- the <u>Merge CSC-file window</u>
- the <u>Batch file properties frame</u> in the <u>Batch page</u> of the <u>Options window</u>
- the *Move to folder* frame in the *Deletion* page of the *Options* window
- the *Export list properties* frame in the *Export* page of the *Options* window
- the *Log file* frame in the *Logging* page of the *Options* window
- the <u>command line parameters</u>

Paths entered to the said locations can either be absolute or relative and may contain environment variables:

- *Absolute paths* start with a drive letter, for example: 'C:\Program files\CloneSpy\CSDefault.cst'.
- *Relative paths* start with '.', '..', or '\', for example: '.\CSDefault.cst'. Relative paths are taken relative to the location of the CloneSpy executable.
- *Environment variables* have to be specified in the form of '%<variable>%'. If an environment variable is defined it will be replaced by its value, otherwise it will simply be removed from the path. If the resulting path becomes invalid an error message will be shown. If you want to specify a path that contains a percent symbol ('%') as normal character then you have to escape it be typing '%%'.

### **Command line parameters**

The usage of CloneSpy is:

#### -a

If you call CloneSpy with this parameter then the scanning process will be started right after the program's window appears. To make use of this option, CloneSpy should be configured to automatically read a settings file when it starts. Otherwise the scanning process cannot be launched. In order to load a settings file when the program starts please have a look at the *Automation* window.

### -a <settings file path>

This way CloneSpy will also perform an autostart as in the -a case above. But if you provide a settings file <a href="mailto:path">path</a>, the program does not need to be configured to automatically load a settings file when it starts. Moreover, if this is enabled in the <a href="mailto:Automation window">Automation window</a> then the selection of the settings file will be overridden by the file specified in the command line. Important to mention is that a file <a href="mailto:path">path</a> must be quoted if it contains free space characters, as in the following example:

CloneSpy -a "C:\Program files\CloneSpy\Default.cst"

**Note:** If a settings file <u>path</u> is specified in the command line then the settings are not automatically saved on program exit to the file specified in the <u>Automation window</u>, even if this option is activated. This procedure prevents CloneSpy from accidentally overwriting the standard settings file by the settings file given in the command line. If you want to save the settings even though, you have to do it manually (see the <u>menu</u> of the <u>Main window</u>).

### (-c1|-c2) <CSC-file path>

If you add -c1 to the command line followed by a CSC-file path CloneSpy will create the specified CSC-file from the content of pool 1 right after the program's window appears. The same holds for -c2 and pool 2, but -c1 and -c2 cannot be used at the same time. Similar to the -a option the corresponding pool must not be empty for this operation (see -a, -p1, -p2). Each of the options -c1 and -c2 can be used together with -a <settings file> to load a specific settings file. In this case the -a option will not start a normal scan, i.e., -c1 and -c2 overrule -a. If the specified CSC-file already exists it will be overwritten.

### -csc <CSC-file path(s)>

This option allow you to replace the content of the CSC-pool with one or more specified CSC-files at

program start. If CloneSpy is configured to automatically read a settings file when it starts (see <u>Automation window</u>) or if a settings file is specified by the -a parameter (see above), then the CSC-pool is modified afterwards. The arguments taken by the -csc option have to fulfill the requirements described in the section <u>Specifying paths</u>.

#### **-е**

This parameter can only be used in combination with the -a, -c1 and -c2 parameter. It makes CloneSpy to close itself when the automatically started scan or CSC-file generation is finished. In combination with -a this option is intended to be used if either duplicates are processed automatically or the result of the scan is exported (see the <u>Action frame</u> in the <u>Main window</u>). To ensure unattended operation of the program in this case, you have to adapt your settings in the <u>Options window</u> accordingly:

- *Present to user* must not be selected in the Zero length files frame
- Display confirmation window <u>must not</u> be selected in the <u>Deletion of read-only files frame</u>
- *Ask user* must not be selected in the *Reparse points* frame

In addition, errors should be suppressed (see the <u>Ignore errors frame</u> in the <u>Report page</u> in the <u>Options window</u>). This can also be achieved by using the -i instead of the -e parameter.

#### -i

This parameter causes the same effect as the -e parameter. In addition it suppresses error messages that might appear when starting a scan. For example, if a pool cannot be scanned because the contained folder is empty, then no error message is shown. In such cases CloneSpy simply closes itself without executing the scan.

#### -m1 -m2 -m1c -m2c

These five options allow you to override the setting of the <u>Mode frame</u> in the <u>Main window</u>. The options set the mode to *Compare files within Pool 1*, *Compare files within Pool 2*, *Compare Pool 1 to Pool2*, *Compare Pool 1 to CSC-file(s)*, and *Compare Pool 2 to CSC-file(s)*, respectively. If the mode is changed by one of these options and CloneSpy is closed afterwards, then the modified mode is stored to disk if the auto-save option is activated (see <u>Automation window</u>). However, the CloneSpy settings are not saved if they are specified by the -a parameter (see above).

### (-p1|-p2) (<pool file path>|<text file path>|<folder path(s)>)

The options -p1 and -p2 allow you to override the content of the pools at program start. If CloneSpy is configured to automatically read a settings file when it starts (see <u>Automation window</u>) or if a settings file is specified by the -a parameter (see above), then the pools are modified afterwards. The arguments taken by the two options can be a combination of CloneSpy pool file <u>paths</u>, special text file <u>paths</u>, and folder <u>paths</u>.

1. If a CloneSpy pool file (\*.csp) should be used to overload, e.g., pool 1 (-p1), then CloneSpy has to be started as in the following example:

CloneSpy -p1 "C:\Program files\CloneSpy\MyPool.csp"

If the pool file specified in the command line cannot be found, CloneSpy presents an error message. Otherwise the initial pool content is replaced by that residing in the given pool file. See the <u>Add</u> <u>folder window</u> on how to create a CloneSpy pool file.

2. If the given argument is a text file (\*.txt), then the file is analyzed. CloneSpy assumes that the file contains a list of folder <u>paths</u> (or drives). Each folder <u>path</u> has to be in a separate line. As an example consider that the file MyFolderList.txt contains the following lines:

C:\TestThis

D:

C:\MyData\AnotherFolder\

If you want to load this list to, e.g., pool 2 (-p2), then CloneSpy has to be started as in the following example:

CloneSpy -p2 "C:\Text documents\MyFolderList.txt"

If the specified text file cannot be found, then CloneSpy will show an error message. Otherwise the initial pool content is replaced by the folders specified in the text file. If a line in the file does not describe an existing folder (or drive), then the line is ignored. This way specific lines can easily be commented out by, e.g., putting a # in front of them. If there is no valid folder in the text file at all, then the corresponding pool will end up to be empty.

Moreover, if the specified text file contains entries that conflict with each other, then these conflicts are resolved. For example, consider that following list is used to modify a pool:

C:\

C:\TestThis

Both entries cannot be added to the pool, because the second folder is a sub-folder of the first one. If something like this happens, then only the sub-folder is inserted in the pool. Thus, only the second line of the example above is inserted. This way CloneSpy tries to make sure that not too many files are scanned by mistake.

3. If the argument is a folder <u>path</u> or a drive, then CloneSpy checks whether it exists or not. All existing folders and drives will used to replace the initial content of the corresponding pool. If a folder or drive does not exist, an error message is shown. For example, the argument may be something as:

C:\TestThis

or:

C:\MyData\AnotherFolder\

Again important to mention is that a specified path must be quoted if it contains free space

characters. But in this case be careful if the <u>path</u> might also end with a backslash as in the following example:

"C:\MyData\Yet Another Folder\"

The argument above will not be correctly given to CloneSpy, because the sequence of backslash and quotation mark will be interpreted by Windows as a so-called escape sequence. This means that the second quotation mark will not terminate the argument but become part of the argument instead. This problem can be solved by escaping the final backslash with an additional backslash as in the following example:

"C:\MyData\Yet Another Folder\\"

or by inserting a white space character after the final backslash as in this example:

"C:\MyData\Yet Another Folder\"

#### **Notes:**

- If an argument matches neither of the cases above, then an error message informs you that the argument cannot be used to modify the corresponding pool.
- If a pool is overloaded and the new content conflicts with the content of the other pool (e.g., a folder to be inserted in pool 1 already exists in pool 2), then the conflicting entries of the other pool are removed automatically.
- If a pool is modified successfully and CloneSpy is closed afterwards, then the modified pool is stored to disk if the auto-save option is activated (see <u>Automation window</u>). However, the CloneSpy settings are not saved if they are specified by the -a parameter (see above).

#### -u

This parameter deactivates the automatic check for new versions on program start. If the update check is already deactivated, then this parameter is silently ignored.

#### **Notes:**

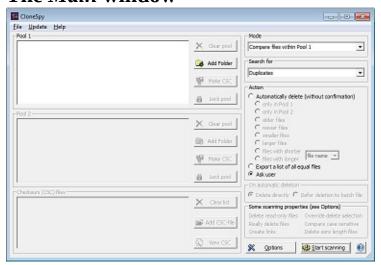
• Default command line parameters for CloneSpy can also be specified in the registry at:

HKEY\_LOCAL\_MACHINE\SOFTWARE\CloneSpy\CmdLineParams

These parameters are ignored if any parameter for CloneSpy is given on the real command line.

• If you want to configure more CloneSpy settings then you have to create a corresponding settings file and specify it using the -a parameter on the command line.

### The Main window



The *Main* window contains the following:

- A menu bar
- Several <u>window elements</u>

### The menu bar

The menu bar of the <u>Main window</u> consists of the *File* menu, the *Update* menu, and the *Help* menu. While the *Help* menu is self-explanatory, some of the *File* menu items may need some explanation. The items of the *Update* menu are explained thereafter.

The *File* menu consists of the following items:

- *Options:* Selecting this menu item opens the *Options* window.
- *Settings*: This menu item includes a sub-menu with five components:
  - *Load Settings:* All settings on the <u>Main window</u> and on the <u>Options window</u> can be loaded from a CloneSpy settings (\*.cst) file. See below on how to create a CloneSpy settings file.
  - Save Settings: All settings entered in the <u>Main window</u> and in the <u>Options window</u> will be saved to a specified file. When you click on this menu item, a dialog box appears that allows you to specify the name of the CloneSpy settings (\*.cst) file. Your selected settings will be saved in this file. You can create different setting profiles for CloneSpy.
  - *Recent files:* This menu item presents a sub-menu containing a list of recent settings files that were either loaded or saved. Selecting one of these files will load the corresponding settings file.
  - Automation: If you click on this menu item the <u>Automation window</u> is displayed. In this
    window you can specify if a settings file should be loaded when the program starts and if all
    settings should be saved on program exit.
  - Reset To Defaults: This menu item resets all settings entered in the <u>Main window</u> and in the <u>Options window</u> to the default settings. These are the settings that were in effect when the program was started.
- *CSC-file*: This menu item includes a sub-menu with three components:
  - View CSC-file: This item is for viewing a specified a CSC-file. Please refer to the <u>View CSC-file window</u> for further information.
  - *Export CSC-file*: If you click on this menu item you you can export a CSC-file as text file. Please refer to the *Export CSC-file* window for further information.
  - *Merge CSC-files:* This menu item allows you to merge different CSC-files into one single CSC-file. Please refer to the *Merge CSC-file* window for further information.

- *Exit w/o Save:* Quit CloneSpy without automatically saving the settings to the file specified in the *Automation* window. This item is only available if the corresponding option in the *Automation* window is activated.
- Exit: Quit CloneSpy.

The *Update* menu contains only two items:

- Check For New Version: If you select this item, CloneSpy tries to check out if there is a new version available on the Internet. Before selecting this option, make sure that your computer is connected to the Internet. If the check is successful, CloneSpy will report whether there is a new version available or not. If an error occurs, although a connection to the Internet has been established, the Internet may be busy or the corresponding web site may be down. If a new version is found to be available, then you are offered to download and install that version. Please be aware that CloneSpy is closed in order to install the new version.
- *Check Automatically:* This item toggles the option to either check for new updates automatically or not. If you check this item, no immediate update check is performed. CloneSpy only looks out for a new version on program start and this is done at most once a day. If CloneSpy was able to successfully perform an update check it will only report and offer the download option if a new version is available. This option is enabled by default.

**Note:** The Internet update function does *not* transmit any information about your system.

### The window elements

The *Main window* includes several controls which are partly grouped together into frames:

- the **Pool** frames
- the <u>Checksum files frame</u>
- the *Mode* frame
- the <u>Search for frame</u>
- the <u>Action frame</u>
- the *On automatic deletion* frame
- the <u>Some scanning properties frame</u>
- the *Options* button
- the *Start scanning* button

Press the *Options* button to open the *Options* window.

Press the *Start scanning* button to start the scanning process which will reflect all settings made in the <u>Main window</u> and in the <u>Options window</u>.

### The *Pool* frames



The <u>Main window</u> offers two pool frames: Pool 1 and Pool 2. Here, you specify the drives and folders to be recursively searched for files that are, for example, identical or have the same name. See the <u>Search for frame</u> for corresponding settings.

For an explanation of why there are two pools, please have a look at the *Mode* frame.

The button *Clear list* removes all drives and folders from the list box. In order to remove single entries from a pool you can use the *Del* key on your keyboard.

When you select *Add folder* the <u>Add folder window</u> appears in order to let you add drives and folders to the list box. Another way to add folders to the pool is to "drag" them from the Windows Explorer and "drop" them directly on the pool. However, if you run CloneSpy with elevated permissions, then you also have to run the Windows Explorer with administrator rights.

A right click on the pool shows a popup menu of recent pool files that were either saved, loaded, or merged in the <u>Add folder window</u>. Selecting one of these files will replace the pool's current content by that of the corresponding pool file. If you right click on an entry in the list box, then the popup menu will additionally contain the option *Explore Folder* for exploring the corresponding drive or folder with the Windows Explorer.

You have the option of either scanning the specified drives and folders right away by starting the scanning process, or creating a CloneSpy checksum file. If you select *Make CSC*, a dialog box opens and you can specify the file name for the output checksum file. This checksum file will contain all necessary data for the files found in the corresponding pool (including a specific 256 bit checksum), having regard to all restrictions entered in the *Options* window. Checksum files allow you to compare them to other files on your hard drive at a later point in time. This is quite useful if you want to compare files on your hard drive to files you have stored on a backup CD. This way you do not need to keep scanning your backup CDs again and again - you just store the corresponding checksum files once on your hard drive. The size of a checksum file depends on the number of files you load in the pool. Of course, if you let CloneSpy compare a checksum file to files on your hard drive, you will only be able to delete files on your hard drive.

The *Lock pool* button is disabled at the beginning. After scanning a pool for the first time, the background color of the pool will change from the default color (normally white) to light green. In addition, the *Lock pool* button is enabled. This shows that checksums generated in the scan just completed may be used again for the next scan. This may result in faster processing. In order to reuse the data stored in a pool, press the *Lock pool* button. The appearance of the button will change from



to



and the background color of the pool will change from light green to light red. The corresponding pool will not be acquired again, but it may be necessary for additional checksums to be generated. Press the button a second time to unlock the pool again.

Assume, that a pool is lockable (i.e. the *Lock pool* button is enabled). If you now change some settings in the <u>Options window</u>, the color of the pool items will change back from light green to the default color (normally white), because different restrictions may result in the acquisition of different files. But, if you lock the pool before changing the options, the changes do not affect the content of the pool. For example, you may lock Pool 1 after scanning it, change the options in order to acquire files in Pool 2 with different settings, and scan it against Pool 1.

#### Caution!

Be careful what you enter in the pools. Add only drives and folders which contain data which you understand and would be happy to delete. Because all folders are scanned recursively, it is most important that you do not enter the entire drive where your Windows system is installed.

## The Checksum files frame



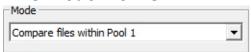
The *Checksum file frame* is used to import previously generated CloneSpy checksum files. The data of a checksum file can be compared to files on your hard drives. Please refer to the <u>Pool frames</u> on how to generate a checksum file.

The button *Clear list* will remove all checksum files added to the list box. If you select the *Add CSC-file* button, a dialog box appears and allows you to choose one or more checksum files. The selected file(s) will be added to the list box. Another way to add checksum files to the list box is to "drag" them from the Windows Explorer and "drop" them directly on the list box. However, if you run CloneSpy with elevated permissions, then you also have to run the Windows Explorer with administrator rights.

If you want to view a CSC-file, double click on it after inserting it in the list box or press the *View CSC* button. Another way of viewing a CSC-file is to select the item *View CSC-File* in the file menu of the <u>Main window</u>. How the contents of the selected CloneSpy checksum file are displayed is explained in the description of the <u>View CSC-file window</u>.

If you want to compare checksum files to files on your hard drives, you have to choose one of the last two options in the <u>Mode frame</u>. Drives and folders you want to scan have to be added to the pool in the corresponding <u>Pool frame</u>. Deletion of files will only be possible if the files originate from Pool 1 or Pool 2, respectively, but not if they come from the CSC-file.

#### The Mode frame

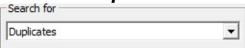


This frame is for selecting which pools are used for a scan. It offers five options:

- 1. *Compare files within Pool 1:* CloneSpy will process only those files that belong to a drive or folder added to Pool 1. All of these files which pass the restrictions made in the *Options* window will be checked against each other.
- 2. *Compare files within Pool 2*: Same as above, but with Pool 2.
- 3. *Compare Pool 1 to Pool2:* CloneSpy will compare the files that belong to a drive or folder in Pool 1 to the files that belong to a drive or folder in Pool 2. The files in Pool 1 will not be checked against each other, just as the files in Pool 2 will not be checked against each other. This option is handy if you have already checked your system for duplicates, but subsequently add a folder of new files. You can insert the new folder in Pool 1, and all the other folders you want to check in Pool 2.
- 4. *Compare Pool 1 to CSC-file(s):* CloneSpy will compare the files in drives and folders contained in Pool 1 to the file data stored in the checksum files inserted to the *Checksum files* frame.
- 5. Compare Pool 2 to CSC-file(s): Same as above, but with Pool 2.

**Note:** Remember that all acquired files are checked against all restrictions defined in the <u>Options window</u>. This may mean that the number of files scanned will be less than the actual number of files residing in folders or on the drives added to the scanned pool.

## The Search for frame



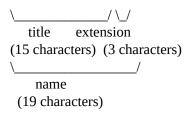
This frame allows you to select one of the following four modes:

- 1. *Duplicates*: CloneSpy will search for files that have exactly the same content. In this case the files will be the same size but will not necessarily have the same file name, date or time stamp.
- 2. *Duplicates having the same file name:* CloneSpy will search for files that have the same name\* and the same content, but not necessarily the same date or time. The comparison of file names is not case sensitive by default, but can be changed in the *Comparison of file names* frame in the *Options* window.
- 3. Duplicates having the same file title: Similar to option 2, but with file title\* instead of file name.
- 4. *Duplicates having the same file extension*: Similar to option 2, but with file extension\* instead of file name.
- 5. *Files having the same name*: CloneSpy will search for files that have the same name\*. As in option 2, the comparison of file names is either case insensitive or case sensitive as determined by the *Comparison of file names* frame in the *Options* window. The files will not necessarily have the same content, size, date or time.
- 6. *Files having the same name and similar size:* This option is the same as option 5, but the size of the compared files must be equal or at least similar to each other. The maximum allowed difference between the sizes of the compared files can be defined in the <u>Size difference btw. files having the same name/title frame</u>.
- 7. *Files having the same title*: Similar to option 5, but with file title\* instead of file name.
- 8. *Files having the same title and similar size:* Similar to option 6, but with file title\* instead of file name.

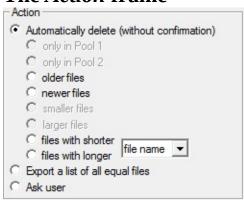
**Note:** The modes 2, 4, 5, and 6 are affected by the <u>file extension aliases</u> option. If that option is enabled, then file names and file extensions might be considered as equal although they are not identical.

\* Example showing the difference between file name, file title, and file extension:

AllDataOverview.txt



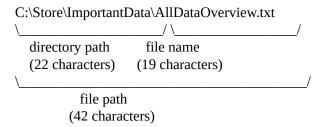
#### The Action frame



#### The *Action* frame contains three main selections:

- 1. Automatically delete (without confirmation): If this option is selected, CloneSpy will automatically delete all redundant files. Therefore, this option offers up to eight possible sub selections in order to specify which files are redundant for the user and should be deleted. Depending on the selections made in the <u>Mode frame</u> or in the <u>Search for frame</u>, some selections may be unavailable. The term equal files in the following list refers to the selection made in the <u>Search for frame</u>.
  - a. *only in Pool 1:* This option will only be available if you chose the *Compare Pool 1 to Pool2* option or the *Compare Pool 1 to CSC-file(s)* option in the *Mode frame*. If CloneSpy finds equal files, there will be at least one file in Pool 1 and at least one file in Pool 2 or in the CSC-file respectively. CloneSpy will delete the file located on a drive or in a folder in Pool 1. Please note: If you choose *Delete all (!)* in the <u>The Zero length files frame</u>, then zero length files found in Pool 2 will be deleted nevertheless.
  - b. *only in Pool 2*: Same as above, but with Pool 2.
  - c. *older files*: If CloneSpy finds equal files, only the newest one will be retained. The term *older* refers to the last modification date and time. This option is not available if CSC-files are scanned.
  - d. *newer files*: Same as above, but CloneSpy will retain the oldest file.
  - e. *smaller files*: If equal files are found, CloneSpy will retain the largest file. This means that only the file with the highest number of bytes will be retained. This option is not available while searching for duplicates, since identical files will always be the same size. In addition, this option is not available if CSC-files are scanned. If you want to <u>search for</u> files having the same name/title and similar size, this selection is only available if the allowed difference entered in the <u>Size difference btw. files having the same name/title frame</u> is larger than zero bytes.

- f. *larger files*: Same as above, but CloneSpy will retain the smallest file.
- g. *files with shorter file name/file path/dir path:* If CloneSpy finds equal files, only the file with the longest file name/file path/directory path will be retained. The terms *shorter* and *longer* refer to the number of characters that a file name/file path/directory path consists of. The meaning of the terms that can be selected from the drop down list can be seen in the following file path example:



The selection *files with shorter file name* can only be activated if you want to <u>search for</u> files that do not necessarily have the same name.

- h. *files with longer file name/file path/dir path:* The same as above, but CloneSpy will retain the file with the shortest file name/file path/directory path.
- 2. *Export a list of all equal files:* If selected, CloneSpy will export a list of all equal files instead of removing any file. The format of the list file can be defined in the *Export list properties* frame in the *Options* window.
- 3. *Ask user*: If CloneSpy detects equal files, a dialog is displayed and the user is asked to select which files should be deleted. When and how equal files are presented to the user can be selected in the *Presentation of equal files* frame in the *Options* window. For more information about the presentation itself see the <u>Result presentation windows</u>.

## The On automatic deletion frame

On automatic delet	ion —
Delete directly	O Defer deletion to batch file

This frame will only be active if you select the option *Automatically delete* in the *Action frame*.

The frame offers two options:

- 1. *Delete directly:* Duplicate files will be processed as indicated in the *How to delete* frame in the *Options* window.
- 2. *Defer deletion to batch file:* No operation is actually executed on duplicate files. Instead, information about these files is written to a batch file as defined in *Batch file properties* frame. Therefore, this option not only allows you to batch targeted files for deletion but also to apply arbitrary file operations to them.

## The Some scanning properties frame

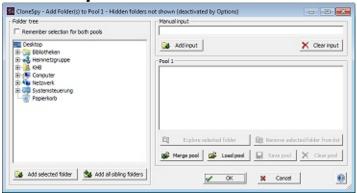
Delete read-only files
Really delete files
Create links
Override delete selection
Compare case sensitive
Delete zero length files

This frame informs you about some special settings selected in the <u>Options window</u>. These settings are highlighted here, because they may affect the selections made in the <u>Main window</u> or the way duplicate files are handled.

If the items in this frame are grayed they are not active. If they are black they are active and have the following meaning:

- *Delete read-only files:* In the <u>Deletion of read-only files frame</u> you are choosing to ignore the read-only protection. Therefore CloneSpy may remove read-only protected files without any further confirmation.
- *Really delete files:* You have chosen in the <u>How to delete frame</u> to delete files irrecoverably. This means that if files are deleted they will not be moved to the recycle bin. So, it will be impossible to restore deleted files after a scan.
- *Create links:* In the <u>Creation of links frame</u> you have chosen to replace each deleted file with a shortcut or a hard link to a corresponding retaining file.
- *Override delete selection:* You have chosen in the <u>Override delete selection frame</u> to allow CloneSpy to revise an automatic delete selection made in the <u>Action frame</u> based on the names of the files.
- *Compare case sensitive:* You have chosen in the <u>Comparison of file names frame</u> to make case sensitive file name comparisons. Therefore, CloneSpy will differentiate between upper case and lower case characters.
- *Delete zero length files*: In the <u>Zero length files frame</u> you have chosen to delete all scanned files that are zero bytes long.

## The Add folder window



This window is for adding folders to either Pool 1 or Pool 2. It appears after clicking on the corresponding *Add folder* button in one of the *Pool* frames in the *Main* window.

#### The window elements

The window is subdivided in three different frames: the *Folder tree* frame on the left hand side, the *Manual input* frame on the upper right hand side, and the *Pool* frame in the middle of the right hand side.

#### The Folder tree frame

At the top of this frame the check box *Remember selection for both pools* allows you to synchronize the tree views of Pool 1 and Pool 2 to each other. This means that the last selected folder in this window is remembered for both pools together.

The tree view control below the check box shows the directory tree of your computer. In order to add a folder to the folder list of the *Pool* frame select the folder from the directory tree by clicking on it. Then, click the button *Add selected folder* which can be found directly below the tree view control and the folder will appear in the pool of the *Pool* frame. A faster way to add a folder from the tree view control to the pool is to click it with the right mouse button.

If you press the button *Add all sibling folders* instead of the *Add selected folder* button, not only the selected folder, but all folders that are in the same folder as the selected folder are added to the folder list of the *Pool* frame.

The expansion progress of the folder tree can be aborted by pressing the Escape key.

#### The Manual input frame

This frame contains an edit box at its top. Here you can enter a folder path manually. You can also enter multiple folder paths by using the clipboard with copy and paste. By pressing the Return key or the button *Add input* below the edit box, the folders entered to the edit box will be added to the pool of the *Pool* frame. If a specified folder is invalid, i.e., it does not exist, it will not be added to the folder list of the *Pool* frame. The button *Clear input* removes all content from the edit box.

#### The Pool frame

This frame contains the corresponding pool. In order to add a folder to it either select the folder in the *Folder tree* frame or specify the folder manually in the *Manual input* frame. Another way to add folders to the pool is to "drag" them from the Windows Explorer and "drop" them directly on the pool. However, if you run CloneSpy with elevated permissions, then you also have to run the Windows Explorer with administrator rights. The pool frame has also six buttons for managing the pool:

- The *Explore selected folder* button allows you to explore the folder that is currently selected in the pool.
- The *Remove selected folder from list* button allows you to remove a single entry from the pool. Likewise you can press the *Del* key on your keyboard.
- The *Merge pool* button works like the *Load pool* button except that all entries loaded from a file will be added to the pool, so entries existing in the pool are not removed.
- If you press the *Load pool* button you can import the pool entries of a CloneSpy pool (\*.csp) file to the pool. All existing entries in the pool are replaced by the new ones.
- The *Save pool* button allows you to store all entries in the pool to a CloneSpy pool (\*.csp) file.
- Pressing the *Clear pool* button will remove all folders from the pool.

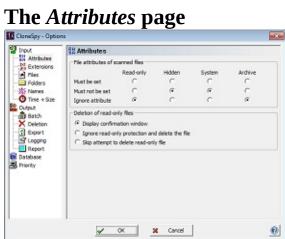
If you double click an element in the pool, the corresponding folder will be selected in the tree view control in the *Folder tree* frame. A right click on the pool shows a popup menu of recent pool files that were either saved, loaded, or merged. Selecting one of these files will replace the pool's current content by that of the corresponding pool file. If you right click on an entry in the pool, then the popup menu will additionally contain the option Explore Folder for exploring the corresponding drive or folder with the Windows Explorer.

**Note:** It is not possible to have the same folder in both of the pools in the <u>Main window</u>. Therefore, if you add a folder to a pool while it is already in the other pool, it will be removed from the first pool.

## The Options window

If you click on the *options* button (or the *options* menu item in the file menu) of the <u>Main window</u>, a new window will be opened. This window will present you with several additional options organized in different option pages. You can select an option page by clicking on the corresponding entry in the tree view control on the left side of the option window. The pages you can select are:

- the *Attributes* page
- the Extensions page
- the *Files* page
- the *Folders* page
- the <u>Names page</u>
- the <u>Time + Size page</u>
- the **Batch** page
- the <u>Deletion page</u>
- the *Export* page
- the *Logging* page
- the *Report* page
- the <u>Database page</u>
- the <u>Priority page</u>



In this page options which deal with file attributes of scanned files are presented in two frames:

- the *File attributes of scanned files* frame
- the <u>Deletion of read-only files frame</u>

# The File attributes of scanned files frame

file attributes of so	canned files ——	•		
	Read-only	Hidden	System	Archive
Must be set	0	C	0	0
Must not be set	С	•	•	0
gnore attribute	( <del>•</del>	С	0	•

This frame allows you to restrict a scan to files which have specific file attributes.

The columns of the presented table refer to the file attributes *Read-only*, *Hidden*, *System*, and *Archive*, respectively. The rows of the table define whether the corresponding file attribute *Must be set*, *Must not be set*, or can be ignored at all (*Ignore attribute*).

Using the default settings as presented in the image above files are scanned only if they are neither *Hidden* nor *System* files. The *Read-only* and *Archive* attributes are not considered.

## The Deletion of read-only files frame

Deletion of read-only files
Display confirmation window
C Ignore read-only protection and delete the file
Skip attempt to delete read-only file

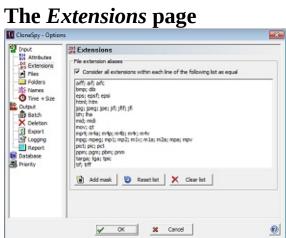
In this frame you can decide how read-only files should be handled, if CloneSpy selects them for deletion.

The first option forces CloneSpy to present a confirmation window every time it wants to delete a read-only file. In this window you can either choose to allow or to skip the deletion of the corresponding read-only file.

If you set the second option, CloneSpy will ignore the read-only attribute and delete a selected file even if it is write protected.

The last option prevents CloneSpy from deleting read-only files at all. Note that with this option, if you also selected the *Automatically delete* option in the *Action* frame in the *Main* window, duplicates may remain on your system. If you allow CloneSpy to ask you which files should be deleted (the *Ask user* option in the *Action* frame), a confirmation window will be displayed nevertheless.

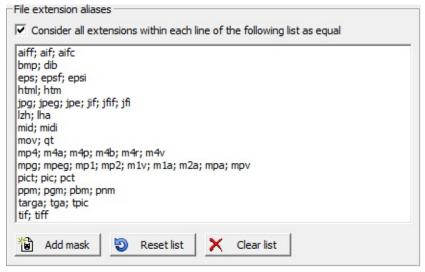
**Note:** This frame is inactive if you set the *Read-only* option in the <u>File attributes of scanned files frame</u> to *Must not be set*. This is because no read-only files are acquired in that mode.



This page contains options about file extensions in the following frame:

• the *File extension aliases* frame

#### The File extension aliases frame



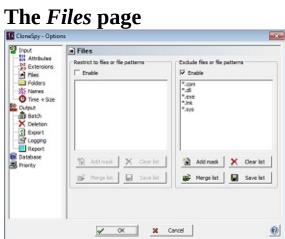
In this frame you can specify different variations of file extensions that should be handled in the same way.

If the check box on the upper left is enabled, then all file extensions within each line of the list box are considered as equal. This option is enabled by default and affects the <u>search for</u> files having the same file name or file extension. For example, consider that the list contains the entry "html; htm" and you search for *Duplicates having the same file name*. If CloneSpy then finds two identical files that have the names Example.htm and Example.html, respectively, these files are considered as equal.

You can enter a new set of file extensions that should be considered as equal to the list box by pressing the *Add mask* button. Then the *Insert mask* window is shown. There you can insert your file extensions, separated by semicolon.

If you want to restore the original list of file extension aliases, then you can press the *Reset list* button.

Single entries in the list can be deleted by pressing the *Del* key on your keyboard. The whole list can be cleared if you click the *Clear list* button below the list.



This page contains options which allow you to define by file masks whether a file is scanned or not. It consists of two frames:

- the <u>Restrict to files or file patterns frame</u>
- the Exclude files or file patterns frame

## The Restrict to files or file patterns frame



This frame is for defining filters to identify the files that should be exclusively processed by CloneSpy. The functionality in this frame is the opposite of the *Exclude files or file patterns* frame where you can tell CloneSpy to exclude specific files from being scanned.

If you enable the check box on the upper left, only files matching the file masks entered to the list box below will be scanned. In order to modify the list you can use the four buttons at the bottom of the frame which have the following meaning:

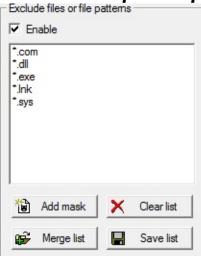
- *Add mask*: If you press this button, the <u>Insert mask window</u> is shown. There you can insert file names or file masks which are then added to the list box.
- *Clear list:* Press this button to remove all entries from the list.
- *Merge list:* If you press this button you can import file masks from a CloneSpy restriction (\*.csr) file to the list. All masks loaded will be added to the list box, so masks already existing in the list are not removed automatically.
- *Save list:* This button allows you to store all entries in the list box to a CloneSpy restriction (\*.csr) file.

Double-clicking on a file mask already inserted to the list box, allows you to modify the selected file mask. Pressing the *Del* key after highlighting a mask will remove it from the list.

For example, if you only want to search your photos for duplicates, you may insert the file masks \*.bmp, \*.gif, \*.jpeg, and \*.jpg to the list box as shown in the image above.

**Note:** The option presented in this frame cannot be used in conjunction with the <u>Exclude files or file</u> <u>patterns</u> option.

## The Exclude files or file patterns frame



In this frame you can specify filters to define the files that should *not* be processed by CloneSpy. The functionality in this frame is the opposite of the <u>Restrict to files or file patterns frame</u> where you can tell CloneSpy to restrict a scan to specified files only.

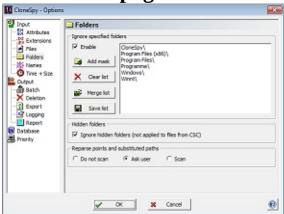
If you enable the check box on the upper left, files matching the file masks entered to the list box below will not be scanned. In order to modify the list you can use the four buttons at the bottom of the frame which have the following meaning:

- *Add mask*: If you press this button, the <u>Insert mask window</u> is shown. There you can insert file names or file masks which are then added to the list box.
- *Clear list:* Press this button to remove all entries from the list.
- *Merge list:* If you press this button you can import file masks from a CloneSpy exclusion (\*.cse) file to the list. All masks loaded will be added to the list box, so masks already existing in the list are not removed automatically.
- *Save list:* This button allows you to store all entries in the list box to a CloneSpy exclusion (\*.cse) file.

Double-clicking on a file mask already inserted to the list box, allows you to modify the selected file mask. Pressing the *Del* key after highlighting a mask will remove it from the list.

**Note:** The option presented in this frame cannot be used in conjunction with the <u>Restrict to files or file</u> <u>patterns</u> option.

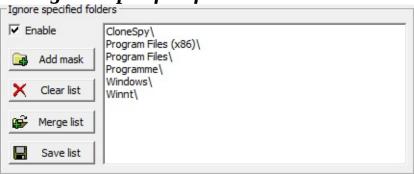
The Folders page



All options that deal with the folders of scanned files are presented in this page. These options are located in the following three frames:

- the *Ignore specified folders* frame
- the *Hidden folders* frame
- the <u>Reparse points frame</u>

## The Ignore specified folders frame



In this frame you can specify by mask, any folders that should not be scanned.

If the check box on the upper left is enabled, a folder and all its sub-folders will not be scanned if the name of the folder matches a folder mask in the list box on the right.

You can add new folder masks to the list box by selecting *Add folder mask*. Then, the *Insert mask* window appears. After confirming your input to that window, the mask you entered will be added to the list.

Single entries in the list can be deleted by pressing the *Del* key on your keyboard. The whole list can be cleared if you click the *Clear list* button on the left side.

Pressing the *Merge list* button allows you to add entries to the list by loading a CloneSpy folder (\*.csf) file. Such a file can be created by using the *Save list* button.

Double-clicking on a folder mask already added to the list box allows you to modify the selected folder mask. For this reason, the *Insert mask* window appears again.

**Note:** Recycle bin folders are never scanned, whether this option is activated or not. This means that folders with the names Recycled, Recycler, or \$Recycle.Bin are ignored in all cases.

# The Hidden folders frame

Hidden folders

✓ Ignore hidden folders (not applied to files from CSC)

If you check the box in this frame, hidden folders will be ignored. This means that no files residing in a folder whose *Hidden* attribute is set will be acquired for scanning.

#### **Notes:**

- If this option is selected, hidden folders will not be visible in the *Add folder* window.
- This option is not applied to files aquired from a CSC-file as information about hidden folders are are not stored to CSC-files.

## The Reparse points frame

Reparse points and	substituted paths	
C Do not scan	<ul><li>Ask user</li></ul>	○ Scan

In general, file system reparse points (also known as junctions) are links to folders or drives. Those links may be soft (symbolic links) or hard (mount points). Mount points can either be directory mount points or volume mount points. The user can handle reparse points like normal folders or drives.

Folder paths on physical and logical drives can be substituted as virtual drives on Windows by the SUBST command. The user can handle substituted paths like normal folders or drives.

Just as normal folders or drives, reparse points (or paths containing reparse points) and substituted paths can be entered to <u>Pool 1 and 2</u> in the <u>Main window</u>. Be aware that a reparse point or substituted path can be entered together with its corresponding true path into the pools at the same time. However, CloneSpy resolves reparse points and substituted paths to their true paths during a scan in order to check whether a folder has already been scanned or not. This means that a folder will not be considered more than once if it is found several times due to reparse points or substituted paths.

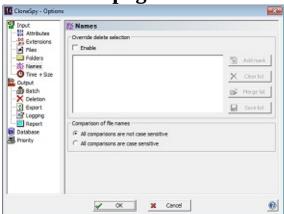
In order to allow the user to handle reparse points and substituted paths differently than normal folders, CloneSpy offers the following options:

- *Do not scan:* If you choose this option then reparse points and substituted paths are ignored and will not be scanned.
- *Ask user*: Choose this option if you want to decide by yourself how to handle reparse points and substituted paths. If a reparse point or substituted path is found during a scan then it will be presented to you so that you can decide individually whether to ignore it or not.
- Scan: If you choose this option, then reparse points and substituted paths are handled as normal
  folders or drives. Please use this option with care, especially when you choose in the <u>Main window</u> to
  automatically delete files.

#### Notes:

- The file system of certain virtual machines may not support reparse points. Therefore, if you mount a folder or drive containing reparse points to the file system of a virtual machine, then the reparse points may not be detected. In this case reparse points are handled as normal folder or drive. Please be careful in this case.
- The true path of a reparse point or substituted path is not checked against <u>folders to be ignored</u> and <u>hidden folders</u>. Only the paths provided in the pools (and their sub-folders) are checked accordingly.

The Names page



Option which refer to the file name of scanned files can be found in this page. It consists of the following two frames:

- the Override delete selection frame
- the Comparison of file names frame

#### The Override delete selection frame



This frame is for revising an *automatically delete* selection made in the <u>Action frame</u>. Further, this option is only considered if you are searching for duplicates that do not need to have the same name. This means you have selected either the option 1, 3, 4, 7, or 8 in the <u>Search for frame</u>.

If you enable the check box on the upper left, you are allowed to enter file masks in the list box below. Here, a mask is an exception rule to an *automatically delete* option selected in the *Action* frame.

The four buttons on the right have the following meaning:

- Add mask: Click this button in order to enter a new file mask to the list box. Therefore, the <u>Insert</u> <u>mask window</u> is displayed.
- *Clear list*: If you click this button, all items are removed from the list box.
- *Merge list:* Use this button to import file masks from a CloneSpy override (\*.cso) file. Loading an override file adds all masks from the file to the list. This means that existing items already in the list are not deleted.
- *Save list:* This button is for saving all items in the list box to a CloneSpy override (\*.cso) file. Saving the list allows you to generate various override files for different scans.

Double-clicking on a file mask already added to the list box allows you to modify the selected file mask. Pressing the *Del* key on your keyboard removes a highlighted item from the list.

If you start the CloneSpy scanning process with this frame activated, and CloneSpy detects duplicate files with different file names, the files that should be deleted according to the selection made in the <u>Action</u> <u>frame</u> are checked against all file masks in the list box. If one of these files matches a file mask, it will not be deleted (or moved; cf. the <u>How to delete frame</u>). Instead all other duplicates including the file that normally would be retained will be deleted.

#### **Example**

Assume you decide in the <u>Search for frame</u> that you only want to search for duplicates. Then, you choose the <u>Both Pools</u> option in the <u>Mode frame</u>, enter some drives or folders to both the <u>Pool frames</u>, and specify

in the <u>Action frame</u> only to delete in Pool 2. Now you enter two file masks to this frame: \*gold\* and project\*. Then you start the scanning process with the *Start scanning* button. CloneSpy finds the following duplicates:

Test.txt in Pool 1, and ProjectDocumentation.txt in Pool 2.

Because the second file name matches a file mask in the override list of this frame (project\*), the first file will be deleted, even though the selection in the <u>Action frame</u> is set to the contrary. If the file in Pool 2 would also be overridden because a corresponding mask exists, the override option would be ignored and therefore the file in Pool 2 would be deleted.

It is important to note here that the comparison is affected by the selection made in the <u>Comparison of file</u> <u>names frame</u>. If the option to compare case sensitive file names is made there then in this example the file Test.txt would not be overridden, because the first letter in the mask project\* is lower case and the first letter in the file name ProjectDocumentation.txt is upper case.

## The Comparison of file names frame

Comparison of file names	
<ul> <li>All comparisons are not case sensitive</li> </ul>	
C All comparisons are case sensitive	

In this frame you can specify whether all file name/title/extension\* comparisons done by CloneSpy are *case insensitive* or *case sensitive*.

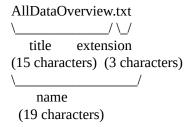
For example, assume that you select an option in the <u>Search for frame</u> in the <u>Main window</u> which examines the name of the files scanned. Then, assume that while scanning two files with the following names are compared to each other:

Information.txt InFoRmAtIoN.tXt

If the *case insensitive* option is selected, the two file names are viewed as equal, otherwise not. Note, that Windows normally considers these file names as equal even though the case is different. Therefore, the *case insensitive* option is the default option.

It is also important to note is that the options in the <u>Exclude files or file patterns frame</u> and in the <u>Restrict to files or file patterns frame</u> are affected, too. Assume that you restrict all scanned files in the <u>Restrict to files or file patterns frame</u> to \*.txt files only. Then, if the <u>case sensitive</u> option is selected, files are not considered if their extensions are TXT or Txt, for example. Moreover, the <u>Override delete selection frame</u> is also affected by the case selection.

\* Example showing the difference between file name, file title, and file extension:



The Time + Size page



This page contains options about time and size of scanned files. These options are divided into five frames:

- the *Time of files* frame
- the <u>Date format frame</u>
- the <u>Size of files frame</u>
- the **Zero length files** frame
- the Size difference btw. files having the same name/title frame

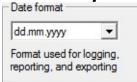
# The Time of files frame

Time of files must	be	
newerthan:	03.09.2011 🔻	21:40:09
older than:	03.09.2011	21:40:09

In this frame you can decide the date and time limits within which a file will be scanned.

The date and time refer to the last modification of the corresponding file. If you select both check boxes, files are only scanned if they are newer than the first date and time and older than the second date and time.

# The Date format frame

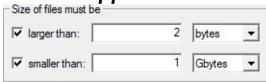


In this frame you can choose the date format CloneSpy uses. It applies to log files, exported files, the <u>result presentation windows</u>, and the <u>View CSC-file window</u>.

The selections are composed of the following place holders:

- 1. *dd*: This pattern represents the day (2 digits).
- 2. *mm*: This pattern represents the month (2 digits).
- 3. *yyyy:* This pattern represents the year (4 digits).

# The Size of files frame Size of files must be

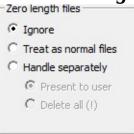


In this frame you can select the size limits within which a file will be scanned.

If you check both check boxes, files must be larger than the size selected in the first box and smaller than the size selected in the second box.

Here 1 kbyte is to be understood as 1024 bytes, 1 Mbyte is the same as 1024 kbytes and so on.

## The Zero length files frame



In this frame you can choose how zero length files are handled by CloneSpy. Zero length files are files that have a size of zero bytes. They exist, but do not have any content.

#### This frame offers three options:

- 1. *Ignore:* If this button is selected, CloneSpy will not process zero length files. Even when generating CSC-files (see the <u>Pool frames</u> in the <u>Main window</u> for details) zero length files are ignored and therefore not written to the CSC-file.
- 2. *Treat as normal files:* If you choose this option then zero length files are processed like all other files. When generating a CSC-file select this option if you want to store information about all zero length files found to the CSC-file.
- 3. *Handle separately*: If you want to handle all scanned zero length files in a special way then you have to choose this option. In this case you have to decide for one of the following options:
  - 1. *Present to user*: If you select this option, CloneSpy will display all zero length files found in the scanning process in a separate window. For information about the presentation of these files to the user see the description of the <u>Zero length files window</u>. No files are presented while generating CSC-files.
  - 2. *Delete all (!):* Press this button if you want CloneSpy to delete all scanned zero length files. Use this option with care, as it is occasionally possible that a program has need to write data to a zero length file, and may behave improperly if you remove it. No files are deleted while generating CSC-files.

#### **Notes:**

- Even if you chose to generate shortcuts or hard links for deleted files (see the <u>Creation of links frame</u> in the <u>Options window</u>), no shortcuts or hard links will be generated for any deleted zero length file.
- If you choose *Delete all (!)* then **all scanned** zero length files are deleted even if deletion of non-zero length files is restricted to a certain location (e.g., Pool 1).

## The Size difference btw. files having the same name/title frame

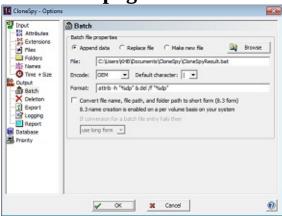
Size difference btw. files having the same name/title			
Max. difference:	0	bytes	<b>T</b>

The settings in this frame are only used in the scanning process if you select either the option *Files having* the same name and similar size or *Files having the same title and similar size* in the <u>Search for frame</u> in the <u>Main window</u>.

If the selection is set to *0 bytes*, files are detected if they have the same name/title and the same size. Otherwise the difference between the size of the files must be lower than or equal to the selected value.

**Note:** Assume that the allowed difference between the size of files is set to 10 bytes. Further, assume that three files are found in the scanning process which have the same name/title. The three files are 100 bytes, 110 bytes, and 120 bytes, respectively. This combination means that all three files will be interpreted as equal, even though the difference between the first and the third file exceeds the chosen allowed difference of 10 bytes.

The Batch page



If you want CloneSpy not to delete any file but to defer the result of a scan to a batch file, this page offers corresponding options in the following frame:

• the <u>Batch file properties frame</u>

## The Batch file properties frame

Batch file	properties	
Apper	nd data C Replace file C Make new file	Browse
File:	D:\Users\KHB\Documents\CloneSpy\CloneSpyResult.bat	
Encode:	ANSI ▼ Default character:	
Format:	attrib -h "%dp" & del /f "%dp"	
Conve	ert file name, file path, and folder path to short form (8.3 form	1)
8.3 na	ame creation is enabled on a per volume basis on your system	
If con	version for a batch file entry fails then	
use lo	ong form 🔻	

This frame is for specifying a batch file which is used if you select the option *Defer deletion to batch file* in the <u>On automatic deletion frame</u> in the <u>Main window</u>. Moreover, the structure of the batch file can be defined in this frame.

The radio buttons *Append data*, *Replace file*, and *Make new file* have the same functionality as the buttons in the *Log file* frame.

In the *File* edit box you can specify the batch file which is used to export data about targeted files. You may use the *Browse* button for selecting a file from your system. If you enter a file path directly to the edit box the entry must fulfill the requirements described in the section Specifying paths.

The *Encode* drop-down list box allows you to choose the encoding of the batch file to be produced. You can choose between ANSI, OEM, Unicode, and UTF-8. Both OEM and ANSI code pages are extended ASCII code pages where characters are represented by one byte. The ANSI code page refers to characters used in Windows itself (default option) while the OEM code page is used in the Windows' console (e.g., for batch files). Unicode characters are represented by two bytes. UTF-8 is a variable-width encoding using one to four bytes per character. Choose Unicode or UTF-8 encoding if your files contain non-Latin characters. If you choose ANSI or OEM encoding instead then it can happen that certain Unicode characters cannot be represented in the corresponding code page. In this case the default character selected in the *Default character* drop-down list is used. This drop-down list offers three options:

- The character "?" is a wildcard. It allows the batch process to find the corresponding file even if the original character cannot be represented using the given encoding. This option is **not recommended** because you can accidentally delete multiple files with similar names. This happens if file names only differ in those characters which are replaced by "?" characters.
- The characters "|" and ":" will cause an error when a file operation is executed. Therefore no operation will be performed on the corresponding file.

The structure which will be created in the specified batch file has to be defined in the *Format* edit box. For every targeted file one line corresponding to the format will be written to the batch file. In order to include information about handled files please use the patterns from the following table. All other characters entered to the *Format* line will simply be written to the batch file.

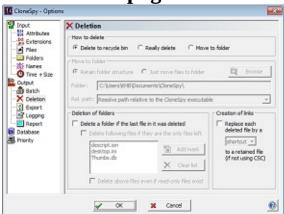
	Files targeted for deletion	Corresponding file to be retained
Size:	%ds	%rs
Name:	%dn	%rn
Path:	%dp	%rp
Folder:	%df	%rf
Time:	%dt	%rt
Attributes:	%da	%ra

For more information on the individual patterns please refer to the *Export list properties* frame.

The option *Convert file name*, *file path*, *and folder path to short form* (8.3 *form*) is helpful if your file paths contain non-ANSI characters. Those characters can only be represented in a batch file if it is encoded in Unicode or UTF-8. However, Windows' standard Command Prompt cannot execute those batch files. Since the 8.3 form contains only ANSI characters, Windows' standard Command Prompt can handle it. Please note that Windows may not provide an 8.3 form for certain file or folder names, because this mechanism is disabled for a specific volume. The second line of the option shows how this mechanism is configured on your system. Please also note that this mechanism can be disabled at any time. Therefore, it is possible that for some file or folder names the 8.3 form exists and for some others on the same volume not. The dropdown list box allows you to select a fallback action in case a file or folder name cannot be converted into the 8.3 form. You can either choose to use the original (long) name or to skip writing the affected entry into the batch file.

- The option to defer file deletion to a batch file is only possible if you select an *Automatically delete* option in the <u>Action frame</u> in the <u>Main window</u>. This ensures that at least one file of a set of equal files is retained. One of those files is chosen to be the one which is used for the %r patterns while all other files are scheduled for deletion or another file operation, respectively.
- Batch files encoded in Unicode or UTF-8 cannot be executed by Windows' standard Command Prompt. You might need to use another shell to execute those batch files.
- Zero length files are handled as defined in the *Zero length files* frame.

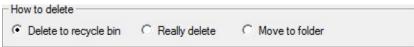
The Deletion page



This page groups together all options which define how files are deleted or handled, respectively. Altogether there are four frames:

- the *How to delete* frame
- the Move to folder frame
- the <u>Deletion of folders frame</u>
- the <u>Creation of links frame</u>

### The How to delete frame



In this frame you can select in which way CloneSpy will handle a targeted file according to the selection made in the <u>Action frame</u> in the <u>Main window</u>. The options are:

- *Delete to recycle bin:* All files that are to be deleted are moved to the recycle bin.
- *Really delete*: Files are actually removed from the system and therefore they will not appear in the recycle bin.
- *Move to folder:* This selection gives you the option to move files to a specific folder instead of deleting them outright. The folder to which a targeted file is to be moved can be specified in the *Move to folder* frame.

- If you choose the first option, make sure that the recycle bin on your system is enabled. Otherwise the files will be deleted immediately. Note that if you are working on a Windows XP system, (de)activation of the recycle bin may be a matter for the System Administrator rather than individual users. In any case it is recommended to test whether CloneSpy can delete files to the recycle bin before scanning sensible data.
- If a confirmation window appears when using the *Move to folder* option, the confirmation relates to the moving rather than the full deletion of the file.

### The Move to folder frame

−Move to fo • Retain		C Just move files to folder	Browse
Folder:	C:\Users\KHB\Do	ocuments\CloneSpy\	
Rel. path:	Resolve path rela	ative to the CloneSpy executable	¥

This frame is only accessible if the option *Move to folder* is chosen in the <u>How to delete frame</u>. Then, CloneSpy will not actually delete a targeted file according to the selection made in the <u>Action frame</u> in the <u>Main window</u>. Instead, the targeted file will be moved to a folder which can be specified in this frame.

The folder to which files are to be moved will be created on the drive or in the folder specified in the edit box. You may click on the *Browse* button to browse for a different drive or folder, or enter a different path directly to the edit box. In the latter case the entry must fulfill the requirements described in the section Specifying paths.

When the scanning process is started, CloneSpy will generate a specific folder name including the current date and time. For example, this folder name may look like:

CS-2001.05.20-16.03

If you start the scanning process with the settings shown in the image above, CloneSpy will then move all targeted files to the following location:

C:\Users\KHB\Documents\CloneSpy\CS-2001.05.20-16.03\

This folder is generated when CloneSpy attempts to move the first file which is targeted. The way the folder will be structured depends on which of the two radio buttons is selected at the top of the frame:

• *Retain folder structure:* When choosing this option, the complete file path of the file to be moved will be stored in the specified folder. Following the example above, assume that CloneSpy generated the following folder to which files are to be moved:

C:\Users\KHB\Documents\CloneSpy\CS-2001.05.20-16.03\

Further, assume that a targeted file is located at:

D:\Store\Images\Example.bmp

Then, the file will be moved to the following location:

C:\Users\KHB\Documents\CloneSpy\CS-2001.05.20-16.03\C\Store\Images\Example.bmp

• *Just move files to folder:* If you choose this option, all files targeted will just be moved directly to the specified folder without preserving the previous folder structure. This means, that the following file:

 $D:\Store\Images\Example.bmp$ 

will be moved to the following location:

C:\Users\KHB\Documents\CloneSpy\CS-2001.05.20-16.03\Example.bmp

If you enter a relative folder path to the edit box, then the drop-down box directly below it will be enabled. The drop-down box allows you to select between two options. These options are explained below. For all shown examples, please assume that the targeted file is:

D:\Store\Images\Example.bmp

The two options that you can select from the drop-down box are:

• *Resolve path relative to the CloneSpy executable:* When choosing this option, the relative path is attached to the path of the folder in which the CloneSpy executable is located. Please assume that CloneSpy was installed to the following location:

C:\Program Files\CloneSpy\

Note: For the following two examples, please consider that your might need appropriate access rights to create folders in C:\ or C:\ Program Files.

• First example: Now assume that you have entered the following relative path to the edit box:

\Temp\

Further assume, that you selected *Retain folder structure* from the radio buttons. Then, the targeted file will be moved to the following location:

C:\Temp\CS-2017.01.11-21.24\D\Store\Images\Example.bmp

• Second example: Assume that you have entered the following relative path to the edit box:

.\

Further assume, that you chose *Just move files to folder* from the radio buttons. Then the targeted file will be moved to the following location:

C:\Program Files\CloneSpy\CS-2017.01.11-21.24\Example.bmp

- Resolve path relative to the respective file to be moved: If you choose this option, then the relative path is attached to the folder path of each targeted file. Please take a look at the following two examples:
  - First example: Assume that you have entered the following relative path to the edit box:

\Temp\

Further assume, that you selected *Retain folder structure* from the radio buttons. Then, the file will be moved to the following location (please note the drive):

### 

• Second example: Now assume that you have entered the following relative path to the edit box:

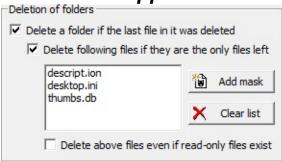
.\

Further assume, that you chose *Just move files to folder* from the radio buttons, then the file will be moved to the following location:

D:\Store\Images\CS-2017.01.11-21.24\Example.bmp

- Check that the drive where the specified folder is located has enough free space for the files to be moved.
- If a file is going to be moved and the folder specified in this frame already contains a file with the same file name, CloneSpy will rename the file being moved according to the Windows rename functionality. This results in the addition of a preceding "Copy of" to the file name in the English version.

### The Deletion of folders frame



Here you can select whether an empty folder is to be deleted immediately after CloneSpy has removed the last file from that folder. To do this, just check the uppermost box in this frame. This option ensures that folders which were empty before CloneSpy was started are not removed. This is because it is possible that you may wish or need to retain even empty folders.

After CloneSpy has deleted a file from a folder, it might be that this folder solely contains certain system files (e.g. *thumbs.db*) or application specific files (e.g. *descript.ion*) that no longer serve a useful purpose in an otherwise empty folder. If you want CloneSpy to delete such *leftover* files automatically, then you have to tick the second check box from the top and specify the files in the list box below.

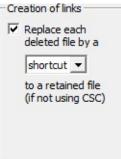
You can add new file masks to the list box by selecting *Add mask*. Then, the <u>Insert mask window</u> appears. After confirming your input to that window, the mask you entered will be added to the list.

Single entries in the list can be deleted by pressing the *Del* key on your keyboard. The whole list can be cleared if you click the *Clear list* button on the right side.

Please be aware that CloneSpy will not delete by default leftover files that are read-only. More precisely, if CloneSpy finds a read-only file that matches a file mask in the list box, then **none** of the leftover files will be deleted. If you want all leftover files to be deleted even if at least one of them is read-only, then you have to check the lowermost box.

- Please be careful: All files matching a file mask in the list box will be permanently deleted. There is no way to recover them!
- If you <u>defer deletion to a batch file</u>, then leftover files will not be deleted by the batch file.

### The Creation of links frame



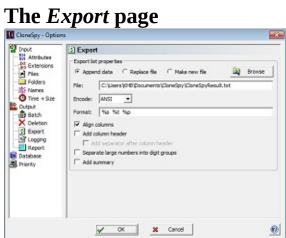
In this frame you can choose to replace a duplicate file with a shortcut (also called soft link) or a hard link (only for NTFS drives) to a corresponding retained file.

If you check this option, all files to be deleted are replaced by a shortcut or a hard link, depending on the selection made in the drop down list. The link will point to a corresponding retained file. The name of a shortcut will be the same as the name of the deleted file - including the extension plus the new extension .lnk. The new extension is appended to the file name instead of replacing the old extension in order to decrease the likelihood of creating duplicate shortcut names. In contrast to a shortcut, the appearance of a hard link created by CloneSpy is identical to that of the deleted original file.

This option is helpful if you want to free up disc space without modifying the structure of the folders you scanned.

- If you choose to create shortcuts, you should restrict the scanning process to files larger than about 4 kbytes (see the <u>Size of files frame</u> of the <u>Options window</u>). Otherwise replacing files will not result in saving disc space due to internal fragmentation and you could possibly replace shortcuts by shortcuts.
- If you choose to create shortcuts or hard links, you should consider how to delete the corresponding files. If you move files to the recycle bin then actually no space is freed until you empty your recycle bin.
- If a shortcut with the same file name as a newly created one already exists, the existing shortcut is replaced by the new one. In this case CloneSpy reports of freed space while actually no space is freed. If you move files to the recycle bin then it is even possible that the free space is reduced.
- It is possible to replace hard links by shortcuts. In this case CloneSpy reports of freed space while actually free space is reduced due to the newly created shortcut.
- If a shortcut should be replaced by a hard link then a hard link to the shortcut target is created, not to the shortcut.

- CloneSpy neither creates shortcuts nor hard links for zero length files if they are <u>handled separately</u>.
- It can happen that a hard link is replaced by a new hard link. This is done in order to optimize clusters of hard links. If this happens then the counter for deleted files is increased, even though the number of files on the corresponding drive is actually not reduced.
- Neither shortcuts nor hard links are created when files are checked against CSC-files. It simply makes no sense to create a shortcut or a hard link pointing to a file which is described in a CSC-file and whose location may not be valid any more (because it is on a CD, for example).
- A shortcut or a hard link is only created if at least one of the duplicate files is retained.
- Hard links can only be created for NTFS drives on Windows XP or higher. Moreover, a hard link can only refer to a file that is on the same drive. Therefore, if you choose to create hard links, a scan can only be started if all folders in the pools (see <a href="Main window">Main window</a>) are on the same drive.



If you want CloneSpy not to delete any file but simply to export the result of a scan to a list file, this page offers corresponding options in the following frame:

• the Export list properties frame

### The Export list properties frame

Export lis	t properties —	2.01		
Appe	nd data C	Replace file	Make new file	Browse
File:	C:\Users\KHE	Documents\C	CloneSpy\CloneSpyResult	txt
Encode:	ANSI 🔻			
Format:	%s %t %p			
✓ Align	columns			
☐ Add o	column header			
ΠА	dd separator a	fter column he	ader	
☐ Sepa	rate large num	bers into digit	groups	
☐ Add s	summary			

In this frame you can specify the file which is used if you select the option *Export a list of all equal files* in the *Action* frame in the *Main* window. You can also specify how the list file should be built.

The radio buttons *Append data*, *Replace file*, and *Make new file* have the same functionality as the buttons in the *Log file* frame.

The file to which the list of all equal files found is exported can be specified directly in the *File* edit box. You can also use the *Browse* button in order to select a file from your system. If you enter a file path directly to the edit box the entry must fulfill the requirements described in the section <u>Specifying paths</u>.

The drop-down list box allows you to choose the encoding of the list file to be exported. You can choose between ANSI, OEM, Unicode, and UTF-8. Both OEM and ANSI code pages are extended ASCII code pages where characters are represented by one byte. The ANSI code page refers to characters used in Windows itself (default option) while the OEM code page is used in the Windows' console (e.g., for batch files). Unicode characters are represented by two bytes. UTF-8 is a variable-width encoding using one to four bytes per character. Choose Unicode or UTF-8 encoding if your files contain non-Latin characters. If you choose ANSI or OEM encoding instead then it can happen that certain Unicode characters cannot be represented in the corresponding code page. In this case the system default character is used. This is usually the question mark ("?").

For every file in a set of equal files a line corresponding to the text entered to the *Format* edit box is written to the list file. As usual, the term *equal* refers to selection made in the *Search for frame*. Different sets of equal files are separated in the list file by an empty line. In order to insert file data of a corresponding file to the lines written to the list file enter the patterns from the following table to the *Format* edit box. All other characters will be written to the list file as they are entered in the *Format* field.

Pattern	Description
%s	the file size in bytes
%n	the name of the file
%р	the complete file path
%f	the folder path where the file is located
%t	time/date when the file was last modified
%a	an attribute string containing the letters "RHSA" if read-only, hidden, system file, and archive bits are set. If an attribute is

	not set for the file then the corresponding letter is substituted by an "-"
	checksum of the file. If you use this pattern then writing the list file may need more time than usual, because some checksums might need to be calculated in addition
%i	index for each file, i.e., the entries in the list get enumerated (index starts with 1)
%I	index for each set of equal files, i.e., all equal files get the same index (index starts with 1)
%P	number of the source pool (Pool 1: 1, Pool 2: 2, CSC-file pool: 3)

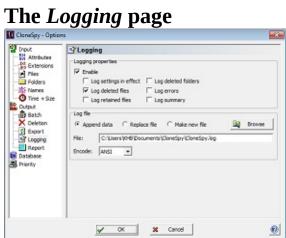
The option *Align columns* next to the *Format* edit box makes sure that the individual data of each file (which replace the patterns entered to the *Format* edit box) are aligned to each other. As a result the exported list gets clearly arranged. But if you do not need this visible makeup and want to keep the size of the exported file as small as possible then simply turn off this option. As a consequence additional white spaces will no longer be added to the list.

If you check the option *Add column header* then a header line will be generated above the exported list. This header will be based on the format of the *Format* edit box. For example %s will be replaced by Size and %n by Name.

If you enable the option *Add column header* then you can decide whether or not to enable the option *Add separator after columns header*. If this option is enabled then a dashed line will be drawn below the header line.

The option *Separate large numbers into digit groups* adds digit separators to numbers in order to increase readability. For example, 7654321 is turned into 7,654,312 or 7.654.312, depending on the user's preferred native locale.

If you enable the option *Add summary* then statistic data will be generated at the end of the exported list. This data represent a subset of the entries in the *Statistics* window.



This page contains all options about logging. These options are presented in two frames:

- the *Logging properties* frame
- the *Log file* frame

### The Logging properties frame

Log deleted folders
Log errors
Log summary

This frame allows you to keep a record (log) of specific file operations done by CloneSpy.

If the *Enable* check box in the upper left-hand corner is activated at least one line of information for every scan started is written to a log file which can be specified in the *Log file* frame. This information includes the time when the corresponding scan was started, what kind of files CloneSpy was searching for, and how they where handled. The following options are for adding additional information to the log file:

- *Log all settings*: If you check this option then all settings of the <u>Main window</u> and the <u>Options</u> <u>window</u> are written to the log file. This might help you to remember which settings were associated with a certain scan.
- Log deleted files: Check this option if you want CloneSpy to store information about every deleted (or moved; cf. the <u>How to delete frame</u>) file to the log file. The size and the path of each processed file will be presented in a single line in the log file.
- Log retained files: If you check this box CloneSpy logs all files that are retained. Note that this does not mean that all scanned non duplicate files are listed in the log file. A file is only listed as a retained file, if there was at least one corresponding duplicate file that was actually deleted.

If you enable this option in combination with the option *Log deleted files* the log file may get a bit complex. To explain the structure, assume that there are seven duplicate files which are all the same. Also, assume that three of them are deleted and the other four are retained. Then, in the log file there will be a block of information about the duplicate files (in our example three) that were deleted, possibly mixed up with some lines containing names of deleted folders or information about file access errors which may have occurred (see below). After this, there will be a block of the corresponding duplicate files (in our case four) that were retained.

Enable this option in combination with automatic deletion (see the <u>Action frame</u> in the <u>Main window</u>) to understand why, after scanning, certain files were deleted.

- *Log deleted folders:* Check this option if you want CloneSpy to log every deleted folder. For more information about the deletion of folders consult the description of the <u>Deletion of folders frame</u> in the <u>Options window</u>.
- *Log errors*: If you enable this option CloneSpy logs errors which may occur while accessing files (e.g. if you do not have the permission to scan a specific file, etc.). File errors are logged even if you disable corresponding notifications in the *Ignore errors* frame or if you skip further warnings in a

displayed notification window.

• *Log summary:* Check this option if you want CloneSpy to store a summary to the log file right after a scan is done. This summary contains the most important information from the scanning process window. For example the duration of the scan or the number of scanned and deleted files is included, if appropriate.

### The Log file frame

Log file	
• Append data C Replace file C Make new file	Browse
File: C:\Users\KHB\Documents\CloneSpy\CloneSpy.log	
Encode: ANSI	

In this frame you can specify the file which CloneSpy will use for logging. The controls in this frame will only be accessible if you enable the logging option in the <u>Logging properties frame</u>.

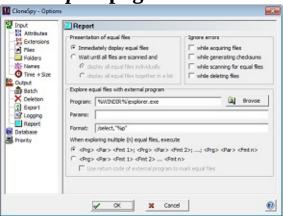
All data specified in the <u>Logging properties</u> frame will be written into the log file indicated in the edit box at the bottom of the frame. If you want CloneSpy to use a different file to store the data, specify another file by clicking the *Browse* button, or modify the path in the edit box. In the latter case the entry must fulfill the requirements described in the section <u>Specifying paths</u>.

If the specified log file does not exist, it will be created when the scan is started. If the log file already exists, the three radio buttons at the top of the frame allow for three options:

- *Append data*: If you choose this option the information about a scan will be added at the end of the existing log file. Remember that over a period of time quite large files may be generated if you select this option.
- *Replace file:* If you select this button the existing file will be deleted and a new one created.
- *Make new file:* This option will force CloneSpy to generate a new log file. The new log file will have the same name as entered in the edit box followed by an underscore character and a number. Assume that the file CloneSpy.log is chosen and that it already exists. In this case the program will try to create a log file which has the name CloneSpy\_1.log. If this file also exists, CloneSpy\_2.log is tested and so on.

The drop-down list box allows you to choose the encoding of the log file to be written. You can choose between ANSI, OEM, Unicode, and UTF-8. Both OEM and ANSI code pages are extended ASCII code pages where characters are represented by one byte. The ANSI code page refers to characters used in Windows itself (default option) while the OEM code page is used in the Windows' console (e.g., for batch files). Unicode characters are represented by two bytes. UTF-8 is a variable-width encoding using one to four bytes per character. Choose Unicode or UTF-8 encoding if your files contain non-Latin characters. If you choose ANSI or OEM encoding instead then it can happen that certain Unicode characters cannot be represented in the corresponding code page. In this case the system default character is used. This is usually the question mark ("?").

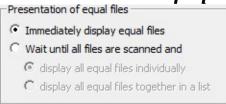
The Report page



This page contains three frames relating to the way in which information is presented to the user:

- the <u>Presentation of equal files frame</u>
- the *Ignore errors* frame
- the Explore equal files with external program frame

### The Presentation of equal files frame



This frame is for specifying when and how to display duplicates to the user if the option *Ask user* is selected in the *Action* frame of the *Main* window.

The main selection in this frame allows you to specify when duplicates should be presented to the user:

- *Immediately display equal files*: If you select this option CloneSpy will present duplicates immediately after detecting them in the <u>Single duplicates window</u>.
- *Wait until all files are scanned*: This option enables CloneSpy to show duplicates only when the entire scan is finished. Here you can also choose which one of two <u>Result presentation windows</u> is used in order to present duplicates which have been found:
  - *display all equal files individually*: All sets of duplicates are shown one after another by using the <u>Single duplicates window</u>.
  - *display all equal files together in a list*: All sets of duplicate files are presented together in one list which is part of the *All duplicates* window.

### The Ignore errors frame

Ignore errors
while acquiring files
while generating checksums
while scanning for equal files
while deleting files

In this frame you can disable file access error windows that might be displayed while scanning.

Windows locks some files for exclusive access. When CloneSpy tries to read such a file, a file access error is displayed. Normally, the corresponding display windows have an *Ignore* and an *Ignore* all button. If you press the *Ignore* button only the current attempt at file access is skipped. In contrast, the *Ignore* all button causes CloneSpy to ignore all further file access errors in the current scanning process.

If you want to prevent CloneSpy from reporting file access errors right away from the beginning of a scan then you can do it in this frame. The options in this frame also allow you to differentiate between file access errors in the different scanning phases. Check the corresponding boxes in order to ignore errors

- while acquiring files,
- while generating checksums for files,
- while scanning for equal files, or
- while deleting files

Selecting all options in this frame makes unattended operation of CloneSpy possible until duplicate files are displayed to the user. Windows may present several files which it will not let you open, because they are used constantly by the system.

**Note:** When you check at least one box in this frame, you should activate the option *Log errors* in the *Logging properties* frame. Then, you have the possibility of viewing them after a scan is finished.

### The Explore equal files with external program frame

Explore equ	al files with external program		
Program:	%WINDIR%\explorer.exe		Browse
Params:			
Format:	"%f"		
When explo	ring multiple (n) equal files, execute		
← <prg></prg>	<pre><par> <fmt 1="">; <prg> <par> <fmt 2="">;; <prg> &lt;</prg></fmt></par></prg></fmt></par></pre>	Par> <	Fmt n>
C <prg></prg>	<pre><par> <fmt 1=""> <fmt 2=""> <fmt n=""></fmt></fmt></fmt></par></pre>		
☐ Use	return code of external program to mark equal files		

The options in this frame affect the functionality of the *Explore* buttons in the <u>Result presentation windows</u>. If one of those *Explore* buttons is pressed then the external program specified in this frame is executed.

- *Program:* The executable entered to this edit box is executed in order to explore equal files. You can click the *Browse* button to select another program.
- *Params:* The parameters entered to this edit box are passed to the command line of the executed program. The parameters are optional.
- *Format*: The format entered to this edit box is used to complement the command line of the executed program. The format should make use of the patterns described in the *Export list properties* frame. Those patterns are replaced by the data of the file(s) that should be explored. Please note that the patterns %n, %p, %f, and %t should be put in double quotes (for example: "%p") because they might contain free space characters. When multiple files should be explored at the same time then for every file the patterns in the *Format* edit box are resolved and appended to the command line.

When multiple files should be explored at the same time then the radio buttons offer two different options to execute the external program.

• *Option 1:* Execute the program (including the given parameters) for each file to explore individually. This means, if you explore n files then the external program is called n times:

```
<Program> <Parameters> <Format 1> <Program> <Parameters> <Format 2> ... <Program> <Parameters> <Format n>
```

• *Option 2:* Execute the program (including the given parameters) exactly once. The data of all files to explore is appended to the command line of the external program:

```
<Program> <Parameters> <Format 1> <Format 2> ... <Format n>
```

For option 2 you can also tick the check box in order to allow CloneSpy to use the return code (exit code) of the external program to mark equal files in the list of the corresponding Result presentation window. In this case CloneSpy expects that a 32-bit value is returned. This value has to have a specific format: First, the highest bit must not be set and the second highest bit must be set. This means, a return value needs to be between 0x4000000 and 0x7FFFFFFF. Otherwise the exit code is ignored. Second, the rest of the bits has to encode which files should be marked and which should be unmarked. The following table explains how the bits have to be set:

Operation	Exit code (Hex)	Exit code (Bit mask)
Unmark all files	0x40000000	0100 0000 0000 0000 0000 0000 0000 0000
Only mark the first file	0x40000001	0100 0000 0000 0000 0000 0000 0000 0001
Only mark the second file	0x40000002	0100 0000 0000 0000 0000 0000 0000 0010
Only mark the first and second file	0x40000003	0100 0000 0000 0000 0000 0000 0000 0011
Only mark the third file	0x40000004	0100 0000 0000 0000 0000 0000 0000 0100
Mark the first 30 files	0x7FFFFFFF	0111 1111 1111 1111 1111 1111 1111 1111

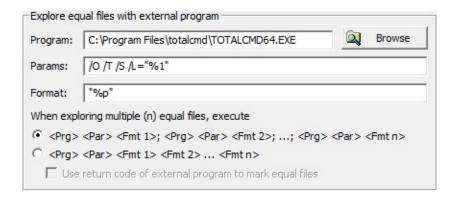
In addition, a return code is ignored if it marks more files than have been passed to the external program.

#### **Notes:**

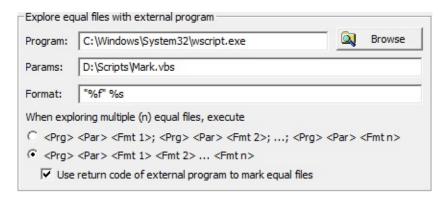
- Files from CSC-files are not passed to the external program.
- If the external program is used for marking equal files then please take into account that CloneSpy has a timeout of 10 seconds. If the external program runs more than 10 seconds then the exit code will be ignored by CloneSpy.
- If multiple files are passed to the external program for marking equal files then markings are applied according to the current order in the list of the corresponding <u>Result presentation windows</u>.
- If you have more than 30 equal files and try to explore them all then only the first 30 files are passed to the external program.

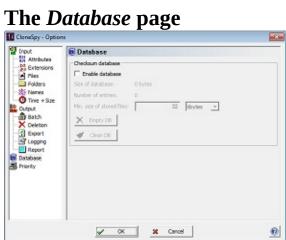
#### **Examples:**

Explore equal files with the 64-bit version of Total Commander:



Mark equal files by running a Visual Basic script using the Windows-based script host:

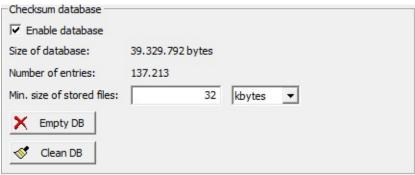




This page offers caching of CloneSpy checksums on your system in the following frame:

• the <u>Checksum database frame</u>

### The Checksum database frame



If you check the option *Enable database* then CloneSpy maintains a database for all checksums that have been generated. In detail, the database stores file entries including absolute path, size, modification time and <u>CloneSpy checksum</u>. Using the database can speed-up the scanning process.

If CloneSpy needs a checksum for file comparison and the database is activated then CloneSpy first tries to retrieve the checksum from the database. The checksum is identified by absolute file path, size, and modification time. If no checksum exists for that file then CloneSpy generates it and stores a corresponding file entry in the database. CloneSpy deletes an entry from the database when it deletes the corresponding file from the file system.

The lines *Size of database* and *Number of entries* show the current size of the database in bytes and how many file entries are currently stored in the database.

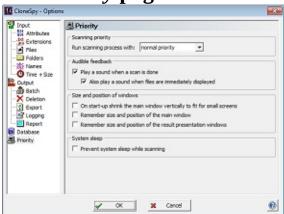
Minimum size of stored files refers to the minimum size that a file must have, so that its checksum gets stored into and retrieved from the database. Specifying a limit on the file size is meaningful, because generating the checksum for a small file might be faster than retrieving that checksum from the database. The minimum file size can be adapted with the corresponding controls. Here 1 kbyte is to be understood as 1024 bytes, 1 Mbyte is the same as 1024 kbytes and so on. Please note: If you increase the file size limit, then already existing database entries corresponding to files with a smaller size will be retained in the database. If you want to remove those files from the database, then you have to clean the database (see below).

If you press the button *Empty DB* then all file entries will be removed from the database. Note that even an empty database will have a size of a few kilobytes.

Press the button *Clean DB* if you want to remove entries from the database that no longer have a corresponding file on your system. This can occur if you have previously deleted files on your system or if they have been removed by other programs. Please be aware that entries are also removed from the database if the corresponding files are on an external data storage that is not connected to your system when you start the clean-up process. Additionally, this cleaning process frees up unused space of the database which can reduce its size.

**Note:** Using the database is not safe against damaged files. A file can be damaged if its content changes, but its size and modification time stay the same. If checksums from the database are used to compare two files then, in the worst case, it can happen that the damaged file is retained and the undamaged one is deleted.

The *Priority* page



This page contains four options concerning the priority of the scanning process as well as the audible and visual priority presented in the following frames:

- the **Scanning priority frame**
- the <u>Audible feedback frame</u>
- the <u>Size and position of windows frame</u>
- the <u>System sleep frame</u>

### The Scanning priority frame

Scanning priority			
Run scanning process with:	nomal priority	•	

In this frame you can select at which priority CloneSpy runs when it searches for equal files. The priority values which refer to the priority classes selectable from the drop down list can be found in the following table.

Priority class	Priority value
highest priority	+2
higher priority	+1
normal priority	0
lower priority	-1
lowest priority	-2
idle priority	-15

- If you want to run CloneSpy in parallel with other programs then please make sure that you read the <a href="Important Note">Important Note</a> before doing so.
- The scanning process mainly relies on hard drive access. Therefore, if you want to run other programs in parallel which frequently access your hard drive, you should better choose the *idle priority* option. Otherwise the performance of those programs may be affected.
- If you run the scanning process at *idle priority* then updating of the program's window can be very slow, especially if the processor operates at full capacity due to other programs running in parallel. Aborting the process can then also take a few seconds.

# The Audible feedback frame Audible feedback

Audible feedback

Play a sound when a scan is done

Also play a sound when files are immediately displayed

In this frame you can disable the sound that is played by default when a scan or a checksum file generation process is done. To do so please uncheck the first check box.

If you use the option *Immediately display equal files* in the <u>Single duplicates window</u> and you only want to disable the sound that is played every time when equal file are found then you have to uncheck the second check box.

### The Size and position of windows frame

Size and position of windows	- 2
On start-up shrink the main window vertically to fit for small screens	
Remember size and position of the main window	
Remember size and position of the result presentation windows	

In this frame you can find three check boxes:

• *On start-up shrink the main window vertically to fit for small screens:* Check this option in order to shrink the vertical size of CloneSpy's <u>Main window</u> when the program is started. This can be helpful if you have a small display.

If you need to shrink the <u>Main window</u> size, then the pools get smaller and the <u>Some scanning</u> <u>properties frame</u> is removed. However, you can resize the window anytime in order to restore its original size.

- *Remember size and position of the main window:* If you check this option, then CloneSpy will remember the size and the position of the <u>Main window</u> when you close the program. The next time you start CloneSpy, the former size and position will be restored.
- Remember size and position of the result presentation windows: This option is similar to the second one. Check it to make CloneSpy remember the last size and the position of the <a href="Result presentation">Result presentation</a> windows when you close the program.

**Note:** The first and the second option cannot be used together.

# The System sleep frame

System sleep	
Prevent system sleep while scanning	

By ticking the check box in this frame you can enable CloneSpy to inform the system that it is in use while scanning. This prevents the system from entering sleep or hibernation.

If scanning is interrupted, for example, because a message box is shown which requires input by the user then the system is allowed again to idle to sleep or hibernation normally.

**Note:** If you send your system to sleep or hibernation manually then CloneSpy will not prevent you from doing so.

### The Insert mask window



This window appears if you click the *Browse* button in one of the following frames of the *Options* window:

- the *Restrict to files or file patterns* frame
- the *Exclude files or file patterns* frame
- the *Ignore specified folders* frame
- the <u>Override delete selection frame</u>

### It also appears if you:

- right-click on files in the list box of the <u>All duplicates window</u> and select one of the <u>Mark/Unmark</u> files by file name/path pattern options.
- click the *Add mask* button in the *File extension aliases* frame of the *Extensions* page in the the *Options* window.
- click the *Add mask* button in the <u>Deletion of folders frame</u> of the <u>Deletion page</u> in the <u>the Options</u> window.

#### The window elements

Depending on context, this window will ask you whether to insert a file mask, a folder mask, or a set of file extensions. You can insert the corresponding input directly to the edit box. If you are asked for a file mask then you can also enter multiple masks by using the clipboard with copy and paste. If you click the *Browse* button when asked for a file mask you can select one or multiple file names from the file dialog which appears. When you are asked for a folder mask, a directory tree is presented after clicking the *Browse* button from which you can select a folder name. If you are asked for set of file extensions then the *Browse* button is not shown. Entered file extensions have to be separated by semicolons.

As indicated in the dialog box, you may or may not include the wildcard characters \* and ? in the input you want to create. As usual in Windows, \* stands for an arbitrary string of characters which can also be empty, while ? stands for just one arbitrary character.

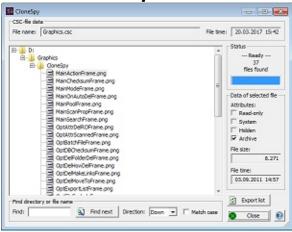
### The Automation window



In the upper frame of this window you can specify if a settings file should be loaded when the program starts. In the lower frame you can specify if all settings should be saved on program exit. The settings include the parameters for all controls in the <u>Main window</u> and in the <u>Options window</u>.

In both cases you can search for a settings file by clicking on the *browse* button. You can also enter the path to a settings file directly into the edit boxes. In this case the entry must fulfill the requirements described in the section <a href="Specifying paths">Specifying paths</a>.

### The View CSC-file window



This window displays the contents of a selected CloneSpy checksum file. In order to view the CSC-file, double click on it after inserting it in the *Checksum files* frame or by selecting *View CSC-file* in the file menu of the *Main* window.

#### The window elements

In the topmost frame, the *CSC-file data* frame, information about the selected CSC-file is presented. This includes the file name of the CSC-file and the time and date of its last modification. Normally, the time and date refer to the creation of the checksum file.

The tree view on the left side of the window displays the folders together with the files that were included in the selected CSC-file. It is important to note that the displayed locations refer to the original locations of the files when the checksum file was recorded. Remember, when viewing a CSC-file, that the original files may have been subsequently moved or removed.

The tree view has to be built from the selected CSC-file. This process can take some time. The *Status* frame on the right displays the building process. When finished, the number of files stored in the CSC-file is displayed.

You may select a file in the tree view by clicking on it. Then, the data of this file which is stored in the CSC-file will be presented in the *Selected file data* frame on the right.

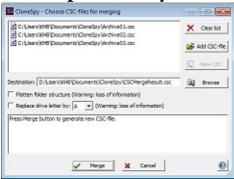
The *Find directory or file name* frame allows you to search the CSC-file shown in the tree view. To do so, enter the directory or file name you are looking for into the *Find* edit box. You may or may not include the wildcard characters \* and ? in the input. Then either press the *Find next* button or the *Return* key on your keyboard to start the search process. The search starts at the element currently selected in the tree view. If no element is selected, then the search starts at the first entry. The *Direction* drop-down box defines whether the search will be performed forward (*Down*) or backward (*Up*). The search will not be performed in a wrap-around manner. This means, that the search will stop after reaching the topmost or bottommost entry in the tree view. If you check the *Match case* box, then the search will be case sensitive. Otherwise it is case insensitive.

If you press the *Export* button you can export the CSC-file to a text file. To do so the *Export CSC-file* 

window will show up which allows you to specify the export file and its format.

Press the *Close* button to close this window and return to the main window.

### The Export CSC-file window



In this window you can specify the text file to which the CSC-file is exported. You can also specify the format of the entries in the file.

The radio buttons *Append data*, *Replace file*, and *Make new file* have the same functionality as the buttons in the *Log file* frame (located in the *Logging* page of the *Options* window).

The file to which the CSC-file is exported can be specified directly in the *File* edit box. You can also use the *Browse* button in order to select a file from your system. If you enter a file path directly to the edit box the entry must fulfill the requirements described in the section <u>Specifying paths</u>.

The drop-down list box allows you to choose the encoding of the export file to be produced. You can choose between ANSI, OEM, Unicode, and UTF-8. Both OEM and ANSI code pages are extended ASCII code pages where characters are represented by one byte. The ANSI code page refers to characters used in Windows itself (default option) while the OEM code page is used in the Windows' console (e.g., for batch files). Unicode characters are represented by two bytes. UTF-8 is a variable-width encoding using one to four bytes per character. Choose Unicode or UTF-8 encoding if your files contain non-Latin characters. If you choose ANSI or OEM encoding instead then it can happen that certain Unicode characters cannot be represented in the corresponding code page. In this case the system default character is used. This is usually the question mark ("?").

The format of the entries in the export file can be specified in the *Format* edit box. The patterns that can be used to access the content of the CSC-file are equal to those used in the *Export list properties* frame (located in the *Export* page of the *Options* window), except for the %I place holder. This pattern cannot be used for the CSC-file export.

The option *Align columns* next to the *Format* edit box makes sure that the individual data of each file (which replace the patterns entered to the *Format* edit box) are aligned to each other. As a result the exported CSC-file gets clearly arranged. But if you do not need this visible makeup and want to keep the size of the exported file as small as possible then simply turn off this option. As a consequence additional white spaces will no longer be added to the list.

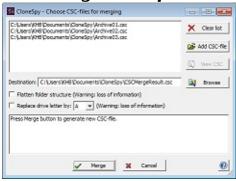
If you check the option *Add column header* then a header line will be generated above the exported list. This header will be based on the format of the *Format* edit box. For example %s will be replaced by Size and %n by Name.

If you enable the option *Add column header* then you can decide whether or not to enable the option *Add separator after columns header*. If this option is enabled then a dashed line will be drawn below the header

### line.

The option *Separate large numbers into digit groups* adds digit separators to numbers in order to increase readability. For example, 7654321 is turned into 7,654,312 or 7.654.312, depending on the user's preferred native locale.

# The Merge CSC-files window



This window allows you to merge multiple CSC-files into a new CSC-file. Duplicate entries are not removed from the new CSC-files unless their file paths and checksums are identical. The file paths are compared based on the setting made in the <u>Comparison of file names frame</u> (see <u>Names page</u> of the <u>Options window</u>).

The upper list box and the three buttons next to it correspond to the controls in the <u>Checksum files frame</u> of the <u>Main window</u>. Enter the files to be merged into this list box.

You can enter the path of the new CSC-file into the *Destination* edit box. In this case the entry must fulfill the requirements described in the section <u>Specifying paths</u>. You can also use the Browse button to select a file from your system.

The check box *Flatten folder structure* allows you to simplify the path entry of each file in the new CSC-file. If you choose this option all path entries are reduced to its drive and file name. For example, the following path:

C:\This\Part\Is\Discarded\MyFile.txt

is converted into:

C:\MyFile.txt

**Note:** You can use this option in order to keep the resulting CSC-file as small as possible. But be aware that you lose the original location of all files stored in the new CSC-file.

The check box *Replace drive letter* allows you to modify the drive letter of all files in the new CSC-file.

**Note:** This is quite handy if the drives on your computer have changed and you want to adapt your CSC-files to the new structure. But be aware that you loose the original location in this case.

The lower list box shows the progress and status of merging. If an error occurs it is shown here in red.

The *Cancel* button closes the window unless the merging process is running. In the latter case the *Cancel* button only stops the merging process so that you can still view the messages in the status list box. After aborting the merging process you have to click the *OK* button (see below) to finally close the window.

Click the *Merge* button to start the merging process. After merging is finished (or aborted, see *Cancel* 

button) the button turns into an OK button. Click it to finally close the window.

# **Result presentation windows**

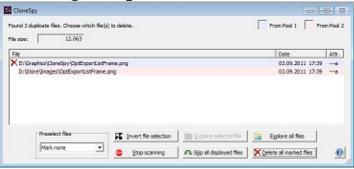
The windows presented in this frame will only appear in the following circumstances:

- a. The option *Ask user* is selected in the *Action frame* of the *Main window*.
- b. The option *Treat as normal files* or the option *Handle separately* together with *Present to user* is chosen in the <u>Zero length files</u> frame.

Altogether there are three result windows:

- the <u>Single duplicates</u> window
- the *All duplicates* window
- the <u>Zero length files window</u>

### The Single duplicates window



This window is presented as a result of a scanning process if the option *Wait until all files are scanned and display all equal files individually* or the option *Immediately display found equal files* was selected in the <u>Presentation of equal files frame</u> before the scan was started. Of course, the option *Ask user* has to be selected in the <u>Action frame</u> in the <u>Main window</u>, also.

#### The window elements

In the first line on the left the number and the type of equal files are displayed. On the right side of this line a legend is presented in some cases. This happens if you have chosen one of the last three options in the <u>Mode frame</u> in the <u>Main window</u>. Left-clicking on the legend icon for pool 1 or pool 2 allows you to select all files from that pool at one time. Right-clicking on those items allows you to change the color used for highlighting the corresponding files in the list box.

The second line shows data that is equal for all files displayed in the list box below. Depending on the selection made in the <u>Search for frame</u> in the <u>Main window</u>, this will show the file size, the file name, or both.

#### The list box

In the center of the window the list of all equal files is presented. Depending on the selection made in the <u>Search for frame</u> in the <u>Main window</u>, the number of columns varies.

The header of the list can be left-clicked to sort the list entries according to the content the selected column.

At the start of each list entry an icon shows the status of the displayed file. A file can be marked or not. If files from a CSC-file are presented, the icon shows a prohibition sign. Of course, these files cannot be marked because they are not removable.

In order to mark a file for deletion the file entry has to be double clicked. Likewise you can press the *Ctrl* key on your keyboard plus the left mouse button. You can also mark a highlighted file in the list by pressing the *Space* bar on your keyboard. In order to unmark a file either double click the file, press *Ctrl* plus left mouse button or press *Space* again.

If you press the right mouse button on a file entry in the list box then a context menu will pop up showing the following options:

• Execute file: This option is only available for files that are not from a CSC-file. It allows you to

execute a file with the program that is associated with this file type in Windows. The same effect can be achieved for a highlighted file by pressing the *Return* key when the list has the focus.

- *File properties:* If you click this option, then the Windows file properties dialog is shown for the selected file.
- *Copy folder path / file name / file path to clipboard:* These options enable you to copy a file path or parts of it into the clipboard. You can then paste this information anywhere you need it.
- *Show CSC-file names:* This option is only available if a pool is compared against CSC-files. In this case a separate column can be added to the list box showing for all files from a CSC-file the name of the corresponding CSC-file.
- *Show grid lines:* This option switches grid lines for the list box on/off.

#### **Preselect files**

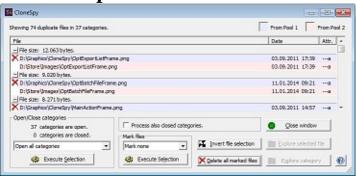
In the lower left corner of the window you can select which files in the list box above should be marked. The options available in the drop down list depend on the selections made in the <u>Mode frame</u> or in the <u>Search for frame</u> in the <u>Main window</u>. If you delete the marked files and the window reappears to present new duplicates, files will already be marked according to the previously selected option. For more information on the items found in the drop down list please refer to the description of the <u>Action frame</u> in the <u>Main window</u>.

#### The buttons

The six buttons in the lower right corner are explained in the following:

- *Invert file selection*: If you click this button, all marked files will change to not marked and vice versa.
- *Explore selected file:* Click this button to explore the highlighted file in the list. The program to explore the file can be specified in the *Explore equal files with external program* frame. The same effect can be achieved by pressing the middle mouse button on the file.
- *Explore all files:* Click this button to explore all files in the list. The program to explore the files can be specified in the *Explore equal files with external program* frame. The same effect can be achieved by pressing the middle mouse button on the list header.
- *Stop scanning:* In order to cancel the scanning process, click this button.
- *Skip all displayed files:* Press this button to ignore all files (even if marked) and to move on to the next comparison. This option has the same effect as selecting *Mark none* and pressing *Delete all marked files.* It is included to facilitate the process of comparing a large number of files, by saving the need to switch between one of the other *mark* options and *Mark none*.
- *Delete all marked files*: If you press this button, CloneSpy handles all files marked in the list box as selected in the *How to delete* frame in the *Options* window. Then, CloneSpy continues with the scanning process.

### The All duplicates window



This window is shown as a result of a scanning process if the option *Wait until all files are scanned and display all equal files together in a list* was selected in the <u>Presentation of equal files frame</u> before a scan is started. Of course, the option *Ask user* has also to be selected in the <u>Action frame</u> in the <u>Main window</u>.

### The window elements

In the first line on the left the entire number of all equal files and the number of corresponding categories are shown. All files that are equal to each other are within the same category. On the right side of this line a legend is presented in some cases. This happens if you have chosen one of the last three options in the <u>Mode frame</u> in the <u>Main window</u>. Left-clicking on the legend icon for pool 1 or pool 2 allows you to select all files from that pool at one time. Right-clicking on those items allows you to change the color used for highlighting the corresponding files in the list box.

#### The list box

The list in the center of the window displays all duplicates that were found during the scanning process. The list shows two different types of entries: the file entries which show information about the equal files found and the corresponding category entries.

Each category entry shows data that is equal for all file entries that are listed below the category entry. Depending on the selection made in the <u>Search for frame</u> in the <u>Main window</u>, the category entry will show the file size, the file name, or both.

The header of the list can be left-clicked to sort the list entries within each category according to the content the selected column.

At the start of each file entry an icon shows the status of the displayed file. A file can be marked or not. If files from a CSC-file are presented, the icon shows a prohibition sign. Of course, these files cannot be marked because they are not removable.

In order to *mark* a file for deletion the file entry has to be double clicked. Likewise you can press the *Ctrl* key on your keyboard plus the left mouse button. You can also mark a highlighted file in the list by pressing the *Space* bar on your keyboard. In order to unmark a file either double click the file, press *Ctrl* plus left mouse button or press *Space* again. Double clicking or pressing *Space* on a category will close an open category and open a closed one. Pressing the *Del* key on a category entry will remove the whole category from the list while executing no operation on the files contained in it.

If you press the right mouse button on a file entry in the list box then a context menu will pop up showing the following options:

- *Mark all files in this folder:* With this option you can mark all files in the list box that are in the same folder as the file you selected. Already existing markings are not affected unless all files within a category would be marked for deletion. In this case one file will be retained. In order to choose which file should be retained this option has a sub-menu. Here you can choose which property a file to be retained should have. This option is affected by the *Process also closed categories* check box (see below)
- *Mark files by file path/name pattern:* These options are similar to the previous one. The only difference is that files are marked based on their file path or file name. Therefore a window is shown after you selected in the sub-menu what kind of files should be retained. In this window you can specify how the path/name of a file have to look like so that it gets marked. You may also include the wildcard characters \* and ?. As usual in Windows, \* stands for an arbitrary string of characters which can also be empty, while ? stands for just one arbitrary character. These option are affected by the *Process also closed categories* check box (see below)
- *Unmark all files in this folder:* This option is the counterpart of the first option. Markings are simply removed if the corresponding files are in the same folder as the file you selected. It may happen that all markings inside a category are removed. This option is affected by the *Process also closed categories* check box (see below)
- *Unmark files by file path/name pattern:* These options are the counterparts of the options described in the second point above. Therefore a window is shown where you can specify how the path/name of a file have to look like so that it gets unmarked. It may happen that all markings inside a category are removed. These options are affected by the *Process also closed categories* check box (see below)
- *Execute file:* This option is only available for files that are not from a CSC-file. It allows you to execute a file with the program that is associated with this file type in Windows. The same effect can be achieved for a highlighted file by pressing the *Return* key when the list has the focus.
- *File properties:* If you click this option, then the Windows file properties dialog is shown for the selected file.
- *Copy folder path / file name / file path to clipboard:* These options enable you to copy a file path or parts of it into the clipboard. You can then paste this information anywhere you need it.
- *Statistics*: If you click this option then the <u>Statistics window</u> will be shown.
- *Show CSC-file names*: This option is only available if a pool is compared against CSC-files. In this case a separate column can be added to the list box showing for all files from a CSC-file the name of the corresponding CSC-file.
- *Show grid lines:* This option switches grid lines for the list box on/off.

#### The Open/Close categories frame

In this frame the number of all open and closed categories are shown. At the beginning all categories are open. Categories can be closed in order to prevent CloneSpy from applying specific operations to the corresponding files. See below for more information. In the drop down list below you can select which categories you want to open or close, respectively. In order to apply the selected operation to the list, press the *Execute selection* button at the bottom of the frame.

#### The Process also closed categories option

This option affects all controls which are below the frame that surrounds it. These are the *Open/Close categories* frame, the *Invert file selection* button, and the *Delete all marked files* button. If this option is activated these three controls will also affect files in categories which may be closed. The same holds for

the marking and unmarking options in the context menu of the list box (see above).

### The Mark files frame

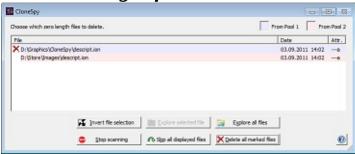
Here you can specify which files in the list are to be marked automatically. Select in the drop down list the kind of files you want to mark. Then, press the button *Execute selection* to apply the operation to the file list. The options available in the drop down list depend on the selections made in the <u>Mode frame</u> or in the <u>Search for frame</u> in the <u>Main window</u>. For more information on the items found in the drop down list please refer to the description of the <u>Action frame</u> in the <u>Main window</u>.

### The remaining buttons

In addition to the two *Execute selection* buttons which are described above, another five buttons in the lower right corner of the window are shown:

- *Invert file selection*: If you click this button, all marked files in the list will change to unmarked and vice versa.
- *Delete all marked files*: If you click this button all files marked in the list are handled as selected in the *How to delete* frame in the *Options* window. Subsequently, all the categories in which at least one file was removed are removed from the list. This is because CloneSpy assumes that you handle whole categories and that you want to keep the remaining unmarked files in these categories.
- *Close window*: If you click this button this window will be closed and the scan is finished.
- Explore selected file: Click this button to explore the highlighted file in the list. The program to explore the file can be specified in the <u>Explore equal files with external program frame</u>. The same effect can be achieved by pressing the middle mouse button on the file.
- *Explore category*: Click this button to explore all files of the currently highlighted category. The program to explore the files can be specified in the *Explore equal files with external program* frame. The same effect can be achieved by pressing the middle mouse button on the category entry.

### The Zero length files window



This frame will appear while scanning only if the option *Handle separately* together with *Present to user* is selected in the <u>Zero length files frame</u> and of course only if at least one file which is zero bytes long is found.

### The window elements

In the first line on the left the number of zero length files found is displayed. On the right side of this line a legend is presented in some cases. This happens if you have chosen one of the last three options in the <u>Mode frame</u> in the <u>Main window</u>. Left-clicking on the legend icon for pool 1 or pool 2 allows you to select all files from that pool at one time. Right-clicking on those items allows you to change the color used for highlighting the corresponding files in the list box.

#### The list box

In the center of the window the list of all zero length files is presented. The header of the list can be leftclicked to sort the list entries according to the content the selected column.

At the start of each list entry an icon shows the status of the displayed file. A file can be marked or not. If files from a CSC-file are presented, the icon shows a prohibition sign. Of course, these files cannot be marked because they are not removable.

In order to mark a file for deletion the file entry has to be double clicked. Likewise you can press the *Ctrl* key on your keyboard plus the left mouse button. You can also mark a highlighted file in the list by pressing the *Space* bar on your keyboard. In order to unmark a file either double click the file, press *Ctrl* plus left mouse button or press *Space* again.

If you press the right mouse button on a file entry in the list box then a context menu will pop up showing the following options:

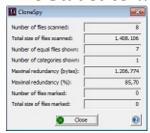
- *File properties:* If you click this option, then the Windows file properties dialog is shown for the selected file.
- *Copy folder path / file name / file path to clipboard:* These options enable you to copy a file path or parts of it into the clipboard. You can then paste this information anywhere you need it.
- *Show CSC-file names:* This option is only available if a pool is compared against CSC-files. In this case a separate column can be added to the list box showing for all files from a CSC-file the name of the corresponding CSC-file.
- *Show grid lines:* This option switches grid lines for the list box on/off.

#### The buttons

The six buttons on the bottom of the window are:

- *Invert file selection*: If you click this button, all marked files will change to *not* marked and vice versa.
- *Explore selected file:* Click this button to explore the highlighted file in the list. The program to explore the file can be specified in the *Explore equal files with external program* frame. The same effect can be achieved by pressing the middle mouse button on the file.
- *Explore all files:* Click this button to explore all files in the list. The program to explore the files can be specified in the *Explore equal files with external program* frame. The same effect can be achieved by pressing the middle mouse button on the list header.
- *Stop scanning:* In order to cancel the whole scanning process, click this button.
- *Skip all displayed files*: Press this button to ignore all files (even if marked) and to continue with the scan.
- *Delete all marked files:* If you press this button, CloneSpy handles all files marked in the list box as selected in the <u>How to delete frame</u> in the <u>Options window</u>. Then, CloneSpy continues with the scanning process.

### The Statistics window



This window is only accessible via the context menu of the <u>All duplicates window</u>. The window provides information about the result of the scan. The information consists of:

- *Number of files scanned:* This is the number of all scanned files. Potential zero length files are only counted here if the option *Treat as normal files* is selected in the <u>Zero length files frame</u> of the <u>Options window</u>.
- *Total size of files scanned*: This is the total size of all scanned files counted in the row above.
- *Number of equal files shown:* This is the total size of all files shown in the *All duplicates* window.
- *Number of categories shown:*This is the number of sets of files equal to each other.
- Maximal redundancy (bytes): This is the total amount of disk space that can be freed if only one file
  (the smallest if searched for same name files) per category would be retained. If scanned versus CSCfiles this value is the sum of all files that are not from a CSC-file.
- *Maximal redundancy (%):* This is the percentage of the value from the row above in relation to the total size of all scanned files (second row).
- *Number of files marked:* This is the number of all files currently marked in the *All duplicates* window.
- *Total size of files marked*:This is the total size of all files that are currently marked in the *All duplicates* window.